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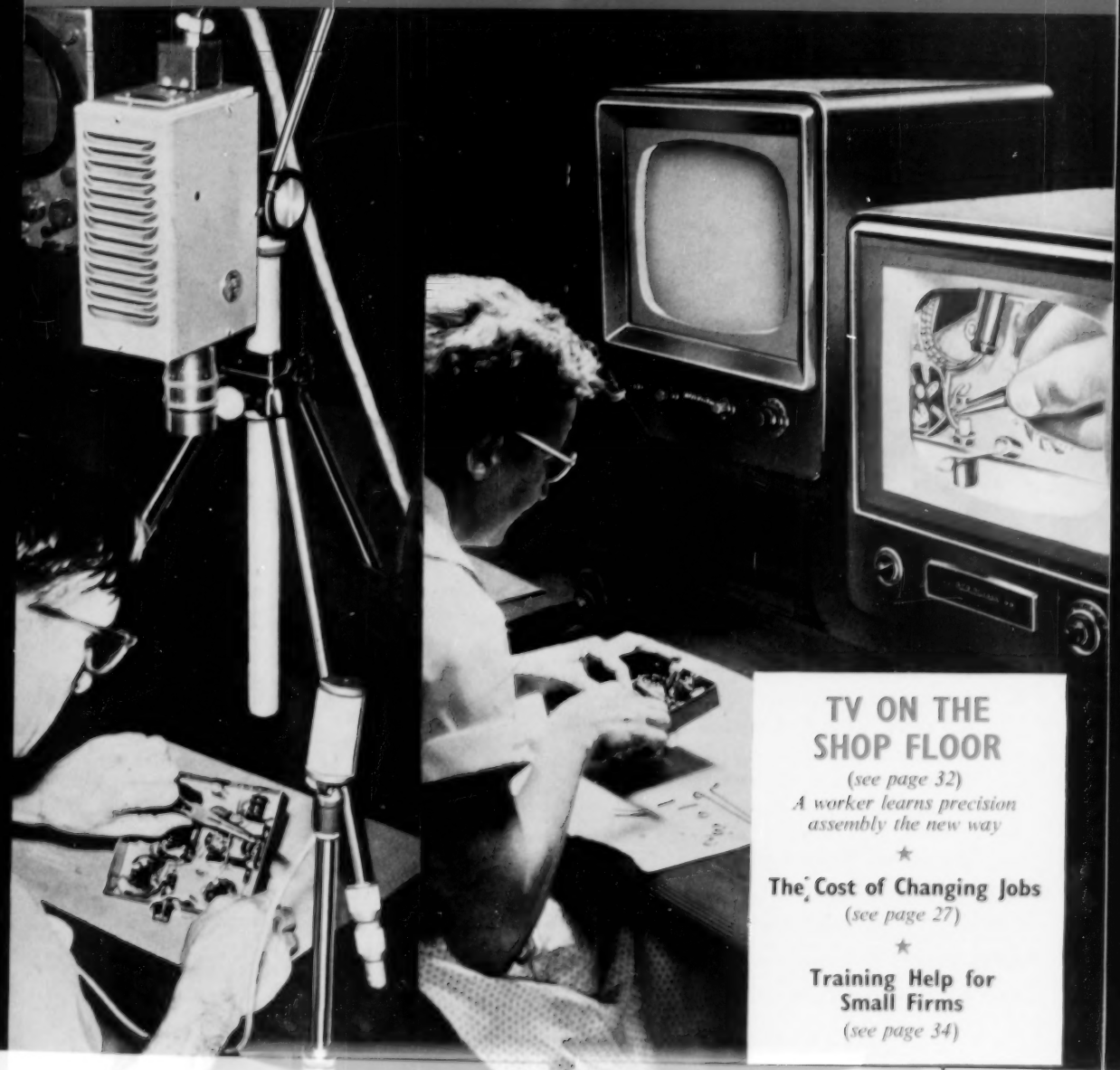

TV ON THE SHOP FLOOR

(see page 32)

A worker learns precision assembly the new way

★

The Cost of Changing Jobs

(see page 27)

★

Training Help for Small Firms

(see page 34)

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(See page 34)

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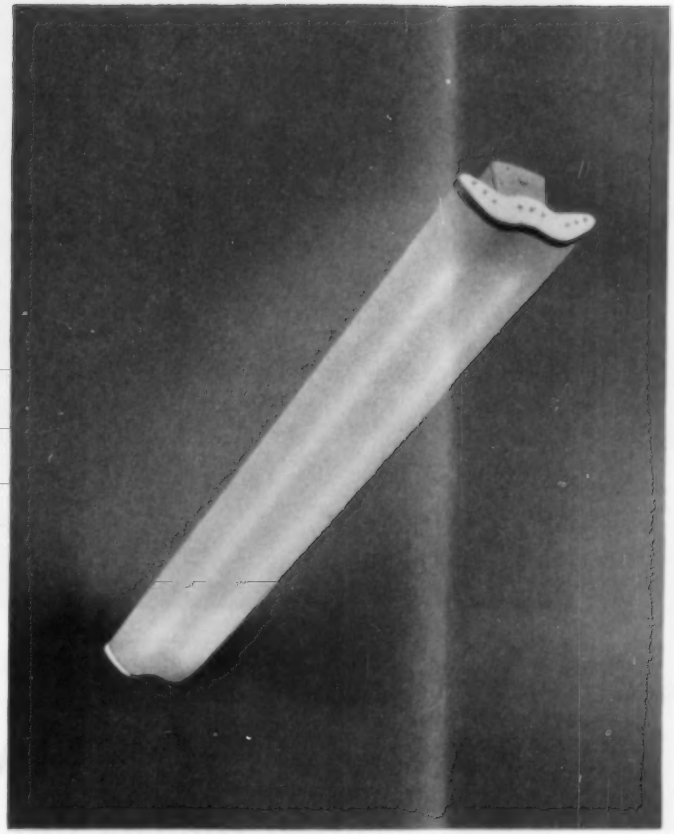

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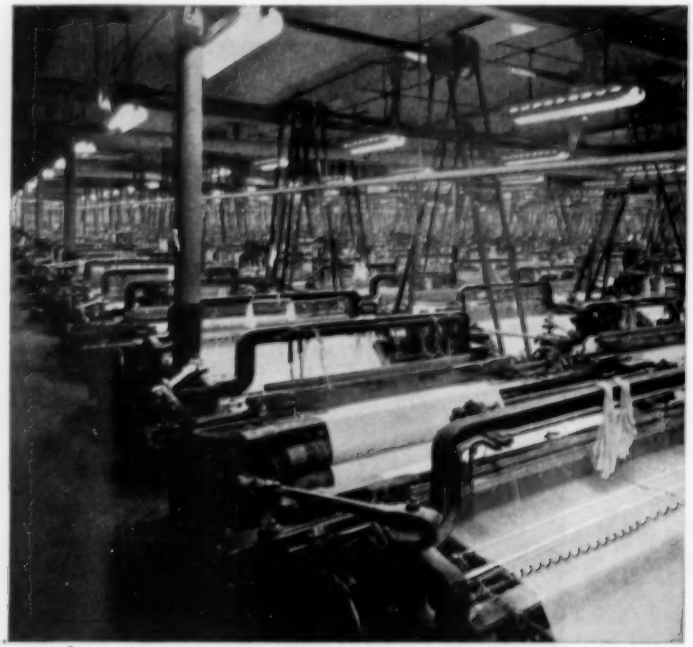

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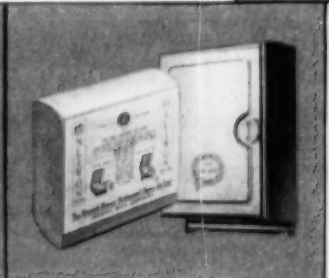

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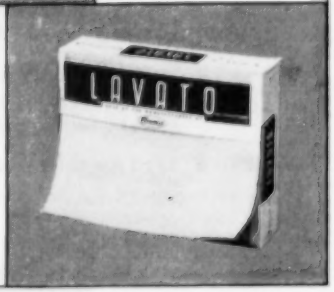

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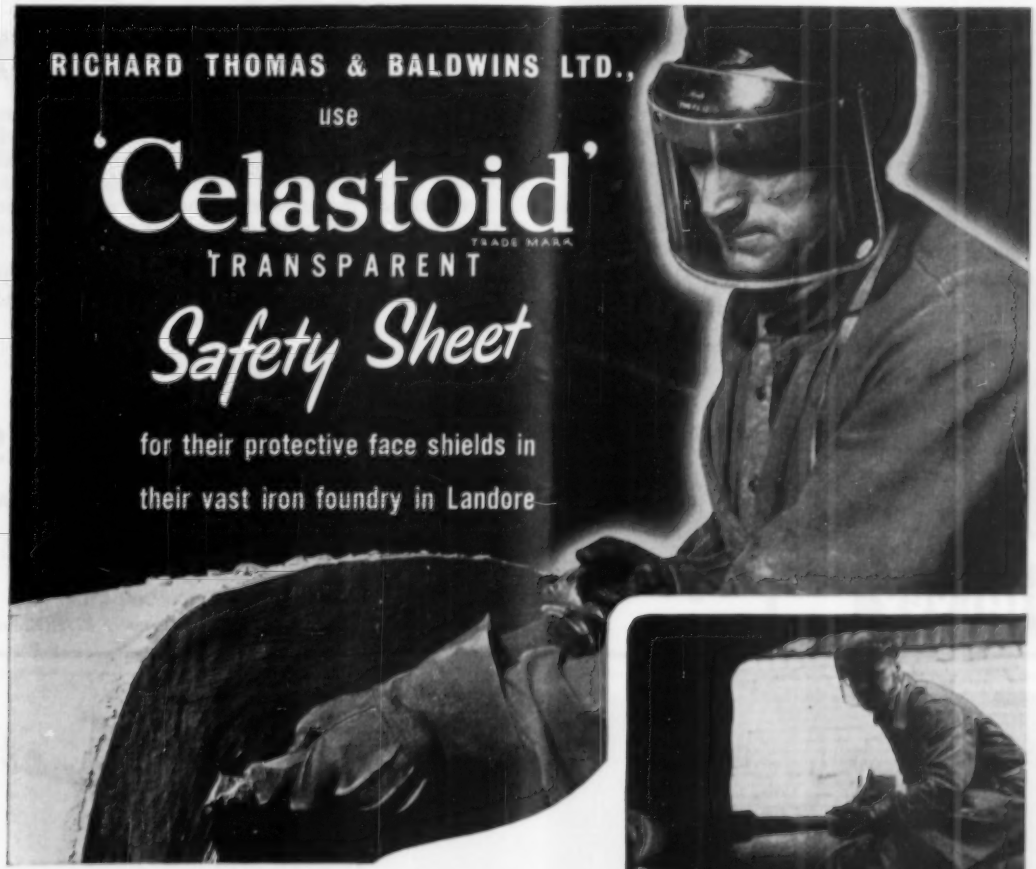

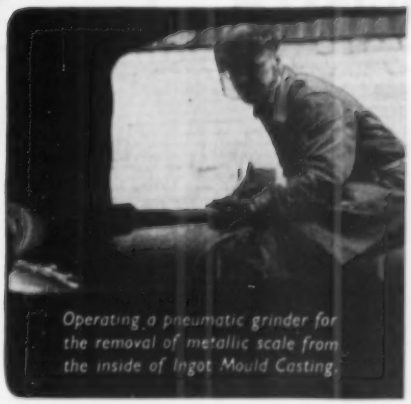

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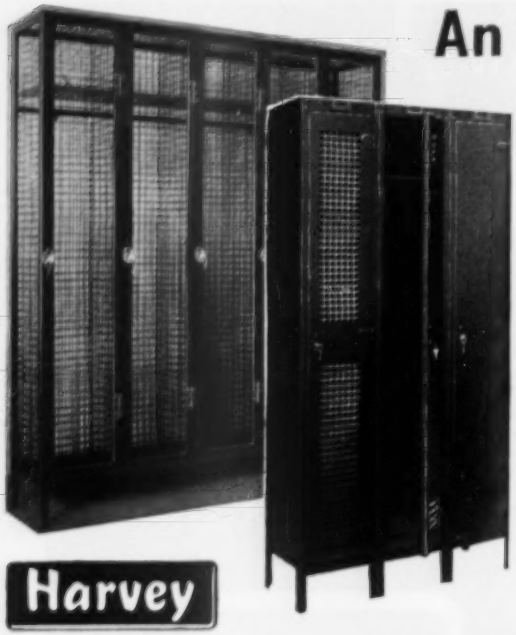

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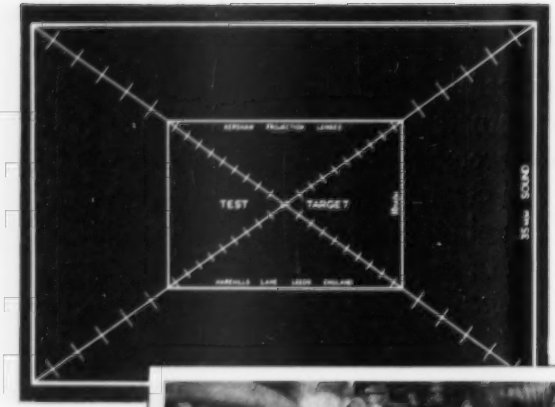

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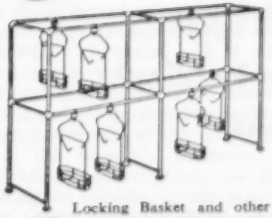

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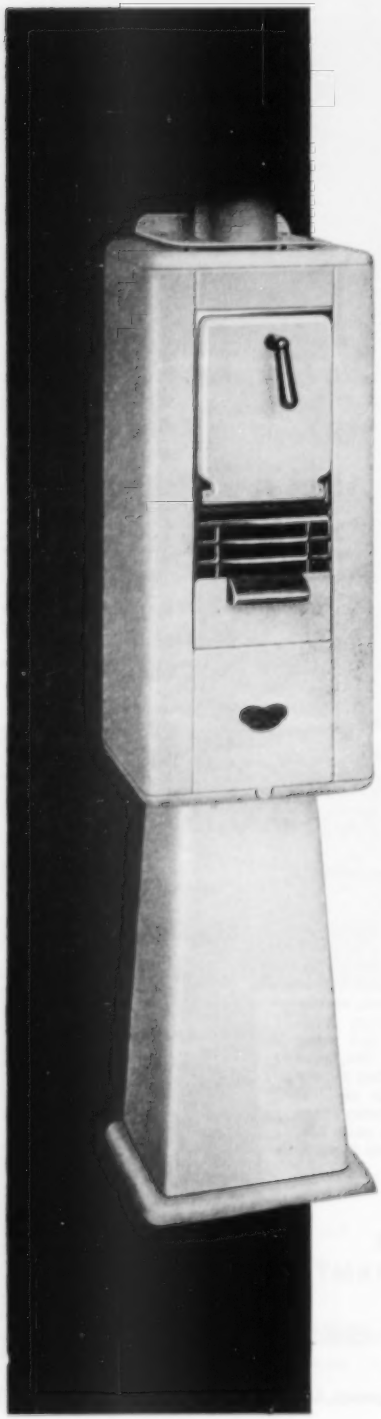

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Point Counter Point

Challenging Ideas & Events in Personnel Management

PERIL IN OUR MIDST

LAST October saw a minor revolution at top management level when Mr. Frank Cousins, general secretary of the Transport and General Workers' Union, was asked to address the annual conference of the Institute of Directors.

In recent months, of course, Mr. Cousins has become the *bête noire* of many top executives—but this is all the more reason that they should hear him out. It should not have been necessary for the Institute's President, Lord Chandos, to have to justify Mr. Cousins's presence; no one but an ignoramus would have made the mistake of assuming that the directors endorsed his opinions.

Directors and trade unionists face a common threat from Communism so every means of getting to know the other's viewpoint should be welcomed. And the extent of that threat is made abundantly clear in a recent booklet, *The Peril in our Midst* (Phoenix House, 2s.).

This is an exposé of infiltration into the trade union movement by the Communist Party. It shows how a single political group with a total of only 34,000 paying members in the whole of Britain is potentially able to cripple the democratic structure of the unions, and with it the country's economy. Its author, Mr. Woodrow Wyatt, was for a time a junior minister in the post-war Labour Government, but he is first of all a journalist and secondly a man who believes in trade unionism as an economic and social force for good.

"STAND UP AND FIGHT"

His journalistic style and sense of purpose have at times swept him into naïveté. The heading of his last chapter, "Stand up and Fight", has force as a last stirring call to union members to hit back, but although it occurs in the prize fighter's song from "Carmen Jones", the phrase existed long before the song was written and it seems ingenuous to quote:—

"Until you hear that bell, that final bell,
"Stand up and fight—like hell!"

The impact here is sensational where the rational is needed, especially since the bell which everyone (except the Communists) is dreading would be, not the final bell of a heavyweight contest at Harringay, but the death knell of the British economy.

For the most part, however, the author's arguments are grimly convincing and backed by the harsh, compelling facts and figures of past Communist intrigues in the unions. He has spent a long time gathering this evidence, questioning officers and members of several unions, and he dedicates the result to "those democratic Trade Unionists . . . who are determined to see that the Communist Party is never able to capture the British Trade Union movement and use it . . . ."

DESTRUCTIVE APATHY

The fact that the book has been written at all makes one realise that it is dedicated to a precious few indeed, for its revelations show vividly the destructive apathy that has immobilised the rank and file and the fear of insecurity that has paralysed many of the full-time officials.

But it is against the apathy that Mr. Wyatt is waging his all too private war. If by reading this book the many millions of ordinary trade unionists can learn the lesson that their various rights as workers (which Communist propaganda exploits so ruthlessly) carry with them the duties to attend meetings and to take an active interest in union affairs, the author will have been successful and the power of the unions will once more be vested in the members instead of a political party.

Here is a lesson for management, too; for by failing to take employees into its confidence it creates the frustration which breeds extremes—which breeds in fact the Communist Party.

GOBBLEDEGOOK

THE reasons for the formation of a Management Consultants Association, announced recently by four of the leading firms in this field, are set out in a brochure of the event as follows:

to develop co-operation between themselves in order to improve the services they render;

to promote understanding of these services and assist those who require information about them; and

to improve and develop the techniques available to management.

Later on the brochure states "In the past decade the use of the services of independent firms of consultants, in order to aid management in the fullest use of all its resources, has grown rapidly" and "the general conditions and the national climate of opinion now favour the improvement of productive efficiency by managements."

While it is no doubt a good thing that such firms should get together and so avoid much costly duplication of effort

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(and also, one hopes, reappraise some of their own methods), the language in which the brochure is written reads like some stuffy Government report. It is always on the fringe of vague platitude and just escapes dullness by its brevity. One expected something crisper and livelier from those who are in business because, presumably, they can see and state more clearly than the average group.

Why, for instance, "to conduct joint research into methods for improving the effectiveness of management"? What is wrong with the word "better"? Gobbledegook ill becomes the efficiency expert.

That apart, there are some interesting facts and figures in the brochure about the range of consultant operations. The four firms concerned employ over 800 consultants and have served over 3,000 organisations in Britain and abroad. By far the greatest number of these (654) have been firms in the textile industry. Heavy general and construction engineering come next with 280.

BUT DON'T LOOK UP

A MEASURE of the attention given to industrial welfare these days is the number of new canteens going up all over Britain. *Personnel Management & Methods* receives a regular supply of pictures of such premises from firms large and small and we should like to thank them for sending us the news. We hope this supply will continue, even though it is of course impossible to use them all.

One general criticism must, however, be made and it applies in particular to canteens designed to serve thousands of employees. Almost without exception, these have an institutional look. At ground level everything is new, clean and attractive, the kitchens are models fitted with wonderful labour-saving equipment, heating and lighting is first class throughout, but a glance upwards reveals a criss-crossing mass of supports, struts, pipes, and light fittings for all the world like the shop floor itself.

A works canteen, no matter how large, should have a soft, warm atmosphere; it should not only be comfortable but *look* comfortable. Above all, its general appearance should be utterly different from the production shop. For examples we need look no further than Western Europe, notably Sweden.

FILM PRICES

MOST of us have long been conditioned to think of film-making as a fantastically costly business. Remembering the superlatives of movie magnates, we find it difficult to dissociate even the documentary film from the orbit of their prodigal extravagance.

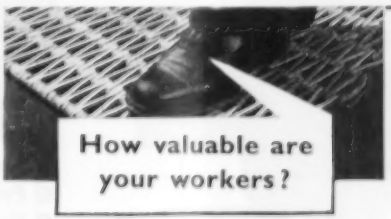
It came as no small surprise, then, to learn that firms in this country can make first-rate colour films with a running time of 30 minutes for less than £1,000. A case in point was *Chance for a Lifetime* made by John Laing & Son Ltd. for £700. Another example was *Hemel Homestead* by Dexion Ltd., a 12-minute colour film which cost under £300 (see our January issue, page 32).

Chance for a Lifetime is aimed at the youth employment market and presents an exciting picture to school leavers of the type of career that an enterprising building firm can offer. It concentrates mainly on what a man can do for the community rather than what is in it for him, but in so doing gives the impression that here is a fine firm to work for.

It is quite possible for any intelligent member of a firm's staff to do the actual "shooting" of a film especially if he uses modern equipment. A professional should always be engaged to do the actual editing however. Two things that must be remembered by all concerned in the production are why it is being made and for whom. Simple points like that are said to be easily overlooked during the mechanics of shooting.

WORTHY CAUSE

SINCE the Industrial Fund for the Advancement of Scientific Education in Schools was founded in November, 1955, grants have been made to well over 100 schools at a cost of nearly £2 million. The fund, whose object is to assist the teaching of science in independent and



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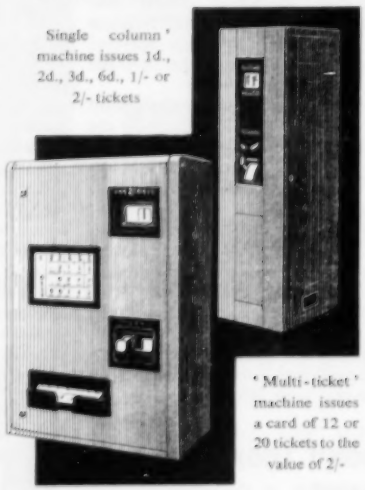

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direct grant schools, is supported by over 100 firms and a few weeks ago stood at £3,020,000.

The great virtue about this Fund is its realism—more so even than the generosity of subscribing firms. True, there has been incessant clamour of late for somebody to do something about our grave shortage of technologists, but usually national problems are finally left to the Government of the day to sort out—and so often the Government in power operates on the principle of too little or too late. Usually both.

The Fund, as it stands at present, is a drop in the ocean of education—or is "jungle" a better term? It shows nevertheless that some people in industry have the common sense to realise that example is better than precept—and that if you want anything done, then do it yourself. The venture deserves very much wider support.

A SMACK IN THE EYE

EVERYONE whose job has to do with guiding and managing people at work should get a copy of a Medical Research Council Special Report (Series No. 292) now published by H.M.S.O. at 10s. Entitled *A Study of Attitudes to Factory Work*, this Report contains the findings of a small team of experts who carried out researches in two motor-car factories and a number of metal rolling mills between November, 1946, and February, 1950. The aim of the investigation was "to ascertain the nature, extent and causes of satisfaction and discontent among men employed on mass-production methods in factories with similar types of work but different management policies".

Various of the team's findings had already been reported in a number of articles, and now seven years after the work finished they have been printed in their totality.

There is not the space here to deal with each separate conclusion but in the team's own words:—

> *"The results as a whole suggest that, provided working conditions are good and men are well treated and adequately paid, they are likely to be reasonably satisfied with jobs that possess little intrinsic interest. The job becomes a part of the daily round, and although it provides few outstanding pleasures or deep satisfactions neither does it cause much resentment or discontent. Most men get to like what they are used to; they become creatures of habit and have little desire to change. On the other hand, where managements have sought to stimulate interest and pride in work in addition to providing good working conditions, satisfaction with the operation has increased."*

Only the last sentence mitigates the smack in the eye to the idealist who strives to change often in a matter of months the deep-rooted attitudes of centuries. On the other hand it would be equally futile to read into this a plea to leave things as they are. As the events of last summer showed only too clearly, new machinery is radically affecting mass-production methods; management has also a duty to foster new attitudes however set the existing ones may be.

LET NOT AMBITION MOCK

Yet one of the most interesting sentences I personally found in the Report was the following:—

> *In the rolling mills, 63.2 per cent of the men were content to remain as they were for the rest of their working life; 41.5 per cent were willing to do the same job if they could start their working life over again; and 16.2 per cent wanted their sons to follow in their footsteps. Most of the remainder wanted jobs which would give them more security and status, but very few aspired to anything higher than a trade.*

Can and ought management do anything about infusing its employees with some real ambition? Or is it merely lucky that the majority of mankind has little or none?

"TO INSURE PROMPTNESS"

THE habit of tipping has now become so widespread that quite a number of personnel managers have had to decide upon policies so far as the practice involves their own workpeople. These policies may range from turning a blind eye to elaborate rules covering every conceivable contingency.

In any case the origin of the word "tip" is not without interest and is referred to in the recently published history of Twinings, the famous tea and coffee firm. "Tip" is said to have originated in the London coffee houses during the late seventeenth century. Nailed to the walls were boxes into which the patron who wanted specially good or rapid service would put money. Each box bore the legend "*To Insure Promptness*" and the initial letters caught on.

It was, and still is of course, an excellent example of an incentive scheme being financed by the customer instead of by the management. THE EDITOR

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But then, more consideration for employees seems to be the tendency nowadays . . . it makes them more confident about the future, and gives them a feeling they're partners in the firm, which they really are, seeing that the money for pension schemes as well as for wages comes out of profits.

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"Elliott Jaques has reached the conclusion that one is paid solely for the discretionary components involved in one's work—for the prescribed component one is paid precisely nothing."

The Time Span of Discretion

A New Theory of Salaries and Wages

This is the first of two articles on the new and revolutionary theory of wages worked out by Dr. Elliott Jaques during his research at the Glacier Metal Company. Here the writer explains what the theory is about. Next month he will assess and comment on its main contention—to wit, that we are paid solely for the discretionary components in our jobs.

LAST June "Personnel Management & Methods" carried a review of Elliott Jaques' book *Measurement of Responsibility*. Some of us were privileged to hear Dr. Jaques lecture on his work at the recent Harrogate Conference of the Institute of Personnel Management. His work with the Glacier Metal Company covers a wide field and, of what has been reported, the central and recurring theme is this new concept—*the time span of discretion*. In this article I shall try to explain the somewhat awe-inspiring phrase and its relevance to salary problems.

"A fair day's work for a fair day's wage." The old adage has provoked endless and bitter arguments. "A fair day's wage for a fair day's work." The same thing? Not quite, and in fact it is precisely the possibility of reversing the cause and effect, the postulate and the lemma, that causes all the difficulties.

Neither the "fair" wage nor the "fair" work has, up to the present, been susceptible to proper definition, acceptable to both employer and worker alike. Various methods of rating of work-values have been proposed. One may allocate

By T. HUGH BEECH, M.A.

scores for experience, skill, training, education, personality, age, etc. All these factors contribute to the total value of a worker.

But we cannot simply add up a set of such scores and take the total as a measure of the value of a worker as compared with another in a different occupation. A low score on one quality would not greatly affect his total, yet it might render a man quite unsuitable for a particular assignment. One might get over this by multiplying the scores instead of adding them. This, on the other hand, might too greatly penalise the man missing out on one quality. More sophisticated ways of mixing the pudding are possible but none tells the full story.

Another approach is to forget the man and look at the "rate for the job", but this, too, can scarcely be said to be free of misinterpretation and possibilities of dispute. Is "the job" invariant with time? Complications always intrude. Is not the value of "the job" some function of the person doing it? Back to Square One.

When Dr. Jaques was invited to develop his studies of how salaries are determined,

"Even jobs thought to be purely routine in nature have some discretionary element."

he started with no preconceived ideas. Within a limited situation an older man might be paid more than a younger, a more skilled man more than one less skilled. But once one attempted to compare different types of worker, a bus driver with an accountant, a salesman with a farm worker, it was obvious that one was not comparing like with like. Different types of skill could not be assessed in the same terms.

Yet salary structures, though never static, clearly had some underlying pattern—*what then was the basic measurement unit, the underlying common factor that linked the various occupations together in a stable pattern?*

Responsibility appeared a likely quality. Again the problem of intractability of measurement emerged, and anomalies appear. A signalman is responsible for the lives of thousands, yet he receives a comparatively low wage. The number of people supervised is another possible yardstick. Yet the senior clerk controlling a large office may be paid less than a scientist whose sole staff is a single assistant.

Difficulties such as these led Dr. Jaques to look further afield for the unit in terms of which salary relationships could be expressed. And in so doing he hit upon a clue that led ultimately to the concept that he now offers to us "the time span of discretion".

He noted that it is considered fitting that the lowest grades were paid on hourly rates, intermediate grades on weekly and monthly, and higher grades on annual rates. This pattern exists consistently in many fields of activity.

Furthermore, the steps from an hourly rate to a weekly rate, from a weekly rate to a monthly rate and so on seemed to represent, in the eyes of both employer and employee, the crossing of barriers of some intrinsic importance.

Could it be that time, then, was the essence of the matter? A senior man may take months to get settled in a new assignment; the hourly paid man may handle a new job efficiently either in a few hours or not at all. It takes longer to assess the man who is being paid more. In so far as there are routine methods of working and regulations to be adhered to, it may be fairly immediately apparent to an alert supervisor whether an employee can cope with the routine aspects of a job or not, irrespective of its level. But in those elements of the job where the employee is expected to use his own judgment and make his own decisions it takes longer to find out whether he is up to the required standard and the time so taken varies considerably as between one job and another.

The Two Elements

This line of thought led to the breakdown of jobs into two elements—the prescribed component and the discretionary component. The prescribed component consists of those elements of the job that are subject to known routines or regulations. The discretionary component comprises the remaining elements, i.e., the area, *within* the prescribed limits, in which the employee is expected to use his initiative, make decisions and use judgment.

This breakdown, though not often studied, does not appear unduly earth-shattering. But from a detailed case study of some hundreds of workers from top management to shop floor level a surprising development has emerged:

Elliott Jaques has reached the conclusion that one is paid solely for the discretionary components involved in one's work—for the prescribed component one is paid precisely nothing.

In all jobs he has analysed, even those thought to be purely routine in nature, he has invariably found that some discretion is expected, and it is on the degree of that expected discretion that the salary depends. The signalman's job has been analysed and has been found to leave very little to discretion. Prescribed regulations cover nearly all circumstances that arise. The scientist, on the other hand, has a very considerable scope for discretion—only the end-result desired and the financial expenditure at his disposal may confine the field in which he judges the best means of attack on the problem. From this difference in degree of expected discretion stems the fact that the scientist commands a higher salary.

We now come to the question of how these varying degrees of discretion are to be measured. The earlier observations on hourly-rated and annual staff led to the examination of whether the time period in which discretion was authorised might be the measure. And so we reach the concept heading this article: the time span of discretion.

Dr. Jaques defines this as *the time it takes the supervisor to detect, either by direct observation or through outside reports, an employee whose discretion is marginally below the standard expected of him, in the natural course of events, i.e., without any special observation on the supervisor's part.* It is *not* the time to detect an employee with a seriously sub-standard discretion, nor to detect negligence or inability to carry out the prescriptive elements of the job. Both these times are in general shorter and are not relevant to the present purpose.

The marginally sub-standard use of

"The time span of discretion is the time it takes a supervisor to detect an employee whose discretion is below the standard expected, without any special observation on the supervisor's part."

"The hourly paid man may handle a new job efficiently either in a few hours or not at all. It takes longer to assess the man who is being paid more."

discretion is defined as *that standard of performance that, though not immediately revealed as unsatisfactory, will in time build up cumulatively to lead to measurable economic loss over a period.* Clearly in different situations that arise in a job different time spans may be expected. The criterion for the job is the *maximum* time span of discretion that may, from time to time, be expected.

By means of discussions with hundreds of employees and their supervisors the time span for each job has been estimated. Two results emerge from the analysis. In nearly all cases the employee and his supervisor, interviewed independently, reached closely agreeing estimates of the former's time span; further, jobs with the same time span, *irrespective of the type of work*, command the same normal salary. By "normal salary" is meant the salary that, in the light of the national salary structure at the time, is regarded as fair by the employee concerned.

It was found that if an employee was being paid a salary within a few per cent of the current "normal salary" applicable to the particular time span of his job he felt satisfied regarding his own position, though he might feel that salaries in general were too low. If he was receiving less than the time span salary by more than a few per cent, he would be under a sense of grievance; if more than a few per cent above the normal, he would feel he was getting more than the job justified.

(Oddly enough, overpayment need not lead to pleasure; it could lead to frustration of a different type from that associated with underpayment. Instead of being dissatisfied with his salary, the worker would feel that the job was not sufficiently interesting, or did not offer sufficient scope for his talents.)

A chart is given in "Measurement of Responsibility" of the normal salaries associated with various time spans of payment from 1 hour to 10 years as seen in 1954. Charts have also been plotted showing typical patterns of time-span development throughout life and the associated salary scales. These charts incorporate correcting factors to remove the distorting effect of inflation. When plotted thus, in real terms, salaries tend to follow Gompertz' law of biological growth.*

The formula does not apply at the lowest levels. In fact, at the extreme low end of the scale a tendency to reach a slight peak in middle life followed by a slight decline is noted. Although all the individual earnings studied were at Glacier Metal Co., typical salary scales in certain big industrial organisations and in the Scientific Civil Service follow the law fairly closely.

This, then, is the time span of discretion, the clue to salaries that are accepted as fair by the worker and supervisor, the link between diverse types of job, the unit of level of work, the factor on which alone salaries are based, or should be based if friction is to be avoided.

So says Dr. Jaques. And let us remember that this is no long-hair theory untested in practice. Rather it is based on actual case histories of real-life job situations. Accordingly, we would be foolish to write time-span off as just another idle fancy. Equally, I believe, we would be ill advised to accept his views uncritically in their entirety.

What is required is the recognition that here we have a new and powerful tool, the potential uses of which are not yet fully explored. It is up to us to study its principles and develop it so as to expose any weaknesses and amplify its powers to deal with salary grading problems in a new way.

It has been possible here only to explain the basic elements of the concept. For a fuller understanding reference must be made to "Measurement of Responsibility." Next month we shall consider and assess some of the criticisms that may be made.

Editor's Note

This article describes a new and provocative theory which, if true, would explain the many apparent anomalies in our present structure of wages and salaries. For that reason readers' comments are specially valuable and you are invited to send in your views to appear in conjunction with those of Mr. Beech in our March issue.

* If s_x is the salary at age x, by this law $\frac{s_x+2}{s_x+1} = \frac{(s_x+1)^c}{(s_x)}$ where c is a constant for the particular individual. This formula generates a salary progress curve throughout life. For various individuals c has been found to vary between 0.83 and 0.98. c=1 generates a salary increasing throughout working life in geometric progression. The most successful individuals do in fact approach this.

"Oddly enough, overpayment need not lead to pleasure." *(Drawings by Tom Adkins.)*

Thoughts on the Nation's Morale

Further comment on the charge that we have become victims of our past prosperity

"HAVING as it were arrived, we (the British) have become soft as a consequence of a fairly long maintenance of a more evenly-shared prosperity"—so wrote Mr. Brian Anthony in the November issue of this journal.

Mr. B. A. Wigglesworth, of 470 Dewsbury Road, Leeds 11, confidently disagrees with this point of view and sees no serious harm in "the idiocies" of rock 'n' roll excesses and Liberace idolatry. He says:—

"To the question 'As a nation are we going soft?' it can safely be said that the answer is in the negative. Rock 'n' roll excesses do not give a true picture of today's youth; is it not more or less the personal desire to do as others do rather than to express the true characteristics of the individual? In some cases it is true that it is a desire to act primitively, the tendency being towards destruction rather than construction, but the persons indulging in such conduct know only too well that they cannot carry on indefinitely in such a manner and that there are other things in life more important to them. Liberace idolatry is no new phenomenon, Liberace being but a name to many people, with a special skill admired by others. Many other people in the past have appealed to, and been admired by, the public, and their names have become known throughout the world, but time has effaced the memory of them and the public are but fickle lovers whose tastes quickly change."

The editor wondered if "asinine industrial disputes" were also a symptom of a general sickness—perhaps another aspect of "softness". To this Mr. Wigglesworth replies:—"Industrial disputes are brought about in many ways: The nature of the occupation. The desire of some employees to take all and give 'nowt'. A similar desire on the part of some employers. Shortage of labour in certain occupations. Differences between unions. Racial prejudice. Inability to agree on the share of the 'pie'. The desire for self-gratification, etc.

"It is true that effort is not in some cases as sustained as it used to be, but it is also true that effort tends to relieve and ease the burden of many, thereby creating a feeling of contentment to some minds and dissatisfaction to others, but, by and large, the various difficulties which have been faced and overcome since the end of the last war indicate only too clearly that 'as a nation we are not going soft', the symptoms are not of a general sickness but of a desire to give more open expression to personal feelings than has hitherto been the case."

"Asinine" Disputes

My attention was also arrested by the editor's description of "asinine industrial disputes" and this set me off to make a small investigation of my own into the causes of those disputes which led to strike action in the months of September, October and November of last year. Here are the results. Strikes concerning pay (basic wage allowances, bonuses—including the speed of a pit pony which was said to be reducing the amount of bonus earned) numbered nine. Strikes about redundancy came next, in importance, seven in all (one of these was in sympathy). Working conditions, hours and holidays accounted for one each, employment of a man not a member of the appropriate union accounted for two, and refusal to load a Russian freighter accounted for one.

The Report of the Engineering and Allied Employers' Federation (London and District Association) for the year ending October, 1956, also has some interesting things to say on this very point. During the year covered by their report, 611 disputes were discussed: 316 dealt with earnings, 79 with conditions, 50 with dismissals, and the rest with holidays, demarcation, redundancy and lost time. The report also says: "Reviewing the question (of industrial disputes) as a whole, it is clear that the vast majority of disputes were handled at their inception in such a way as to avoid complications. There were, however, a few cases *where casual handling in the early stages of negotiations or an over-rigid attitude to a question raised caused some difficulty*" (the italics are mine).

I have asked the editor to expand his views on this important subject. This is what he says:—

Most strikes undoubtedly occur because the workers concerned are convinced that they have a valid grievance. And in very many cases the workers are right. But it is also true that some industrial disputes—very often those that cause the greatest harm—are quite "asinine" when we get down to the heart of the matter. One need look no further than the ridiculous "Who shall bore the holes?" strike which lasted for months last year and caused dismay in this country and amused incredulity elsewhere.

The Communist Party causes much of this mischief, for none knows better than they the art of cutting a worker's throat by inciting him to stand up for his "rights". (See this issue, Point-Counter-Point.) And so long as Communists exercise the influence they do on the trade union movement, asinine disputes must in the nature of things continue to erupt.

Can we have some more views on this vital issue, please?

—and some useful Basic Information

Industrial Law. *Trades Union Congress, 1s. 6d.*

ALTHOUGH this booklet also deals with the legalities of trade unionism it is in no way a duplication of the work reviewed on page 44, but an introductory guide to the subject specially compiled for union officers and other active members.

Each of its three chapters is concluded with a reading list for a more detailed and specialised study. While it covers the general law relating to employment and the legislation affecting the unions, it is careful to avoid presenting a narrow view of the subject. The first chapter "begins at the beginning", as it were, and briefly traces an outline of that complex and formidable institution, the English legal system.

The T.U.C. has done an excellent job in producing this booklet, for it is a recognition of the responsibility which each union officer bears, from the president to the shop steward—a responsibility which neither the officers nor management can afford to forget. To this end both parties are encouraged to obtain a copy.

The Startling Cost of Labour Turnover

How can a personnel officer cut his labour turnover costs? As a first step, he must know what items are affected each time a worker leaves or is taken on. This feature, which highlights the findings from sixteen case histories compiled during a recent B.I.M. survey, provides a starting point. It is also a yardstick for comparing his own turnover costs with those of other firms.

By R. L. WEBSTER,
Chief Personnel Officer, Hoover, Ltd.

"About 40 per cent. of all workers are involved at a cost of perhaps £700 million a year."

R. L. Webster

MUCH research has been done and a great deal written on the incidence, cause and cost of labour turnover in Britain, yet the figures suggest that managements have done little to reduce it. For example, evidence from various sources has led me to the conclusion that turnover in the manufacturing industries is about 41 per cent for men and women jointly; for men the figure is about 35 per cent and for women 54 per cent per annum.

These figures represent a considerable productive loss to the country, but few people are prepared to answer the question: "What is the cost of labour turnover and how can its cost be measured in financial terms?"

The table shown here notes down the results of a pilot investigation into 16 firms by the British Institute of Management, the Institute of Costs and Works Accountants and the Institute of Personnel Management. The results show that it costs these companies anything from £5 to £396 every time an employee has to be replaced. (And it is our experience that only the best firms co-operate in a study of this nature.)

If we look at the cost per employee, we find that labour turnover adds from 5d. per week to £3 per week to the wage cost of each individual. In fact, in this series of 16 studies, seven firms were adding 10s. or more per week to the wage cost per individual as a result of labour turnover.

Applying the results of this survey to the manufacturing industry as a whole —40 per cent of the employed population —labour turnover is costing about £230 million a year—perhaps £700 million a year for all employed persons.

Three main forms of cost were studied: variable costs, fixed costs, and loss of sales caused by lost output due to labour turnover.

Variable costs were separated into these five main items:

1. Cost of advertising for new labour.
2. Ineffective learning time and scrap.
3. The cost of overtime because of excessive labour turnover.
4. Transfer of employees from one job to another for the same reason.
5. Situations in which a labour pool is deliberately built up to cover emergencies of labour turnover and absenteeism.

Fixed costs were three in number as follows:

1. Part of cost of personnel department—in particular that section engaged in interviewing and recruitment.

(Continued on next page.)

Case History Table

LABOUR TURNOVER COSTS AMONG MANUAL

Establishment	Labour turnover percentage for 3 months	Number employed	Advertising	Learning	Scrap	Overtime
	per cent		£	£	£	£
1. Scientific instruments	11	520	145	—	—	153
2. Vehicle engines	3	9,100	720	10,902	3,654	644
3. Vehicles	1.5	12,049	—	4,000	—	—
4. Foil	11.2	363	22	2,610	4,995	3,530
5. Collapsible tubes	19.2	330	21	355	—	—
6. Filters	53.1	146	18	10	—	852
7. Engineering	5.4	1,116	14	220	—	1,488
8. Engineering	3.9	1,598	114	1,220	113	—
9. Engineering	11.3	888	636	480	—	942
10. Radio valve manufacture	19	743	7	247	—	*323
11. Paint	14.2	401	8	81	—	4,650
12. Chemicals	11.75	851	132	—	—	—
13. Sewing cotton	10	667	274	1,260	—	—
14. Sewing cotton	31.4	49	6	3	—	10
15. Pharmaceutical	7	1,090	59	78	—	—
16. Pharmaceutical	5	600	70	—	—	—

* This cost includes redeployment, £285, plus overtime, £38.

2. Part of the cost of the medical department.
3. Training school costs and instructors' salaries.

Lost sales were taken to be shown by the loss of profits where labour turnover could be proved to have held up production.

The *total cost* is derived from the sum of these items.

The object of the investigation was to bring about a practical and reasonably simple costing method. Inevitably, then, we had to ignore some intangible costs such as loss of morale among the workforce, the effect on the company's reputation and on its ability to attract good-quality labour and technicians. Again, in a highly capitalised firm, there is overhead loss when expensive plant is not in use. Nevertheless, effective action is much more likely to be taken when the system of costing labour turnover is not further bedevilled by considering intangibles.

Under the section "variable costs" some interesting figures came to light. Advertising cost per engagement, for example, ranged from nothing to £6 3s. 6d. Although not covered by the enquiry, it was found by way of contrast that advertising for specialist and technical staff was many times more costly. One firm spent £185 per engagement to get designers and draughtsmen, while a firm of chemical engineers paid £100 per engagement for technical staff.

Training and Scrap

For "learning time and scrap" most firms were able to place a figure on this item ranging up to £31 per learner. It was generally not possible to separate scrap from instruction costs, but in one company making vehicle engines the excess scrap cost per learner was £11 17s. At another company, making aluminium foil, scrap costs per learner were as high as £151 for three months.

Overtime costs naturally varied widely, but one firm with 400 employees was spending nearly £20,000 a year in extra wages on overtime; it claimed that 90 per cent of this was due to labour turnover.

Under "fixed costs" the table sets out those covering the maintaining of a personnel department. Variations depend entirely on the size, policy and labour situation in the locality. Only seven firms reported specific costs for training and these were obviously related to the type of labour employed and the length and intesity of the instruction. One firm included its management trainees but the rest included only manual workers.

Where "lost sales" were considered, most firms thought that they did not lose any as a result of labour turnover. Delivery dates, certainly, were affected and overtime was worked to combat the labour shortage. Three firms did, however, report losses of sales. A factory employing 418 put its profit loss over three months from this source at £4,000; another, making collapsible tubes and employing 300, estimated a profit loss of £1,500 for the same reason, while the third put its loss at £7,300 through being unable to produce to schedule.

The table shows that the investigation was concerned with showing the cost of labour turnover under three main headings: the cost per separation, the cost per employee and labour cost as a percentage of total production costs.

WORKERS IN 16 FACTORIES OVER THREE MONTHS

Personnel department	Medical department	Training cost	Lost profit	Total cost	Cost per separation	Cost per employee	Total wage bill for 3 months	Labour cost as percentage total production cost
£	£	£	£	£	£	£ s.	£	*per cent*
78	—	—	—	376	7	14	45,600	19
212	375	—	—	16,507	53	1 16	1,293,000	22
—	—	—	—	4,000	33	6	1,879,644	18
300	—	—	4,005	15,462	396	43 0	66,174	7
90	—	150	1,552	2,168	234	6 11	29,499	15
24	—	—	—	904	12	6 17	16,700	29
17	—	—	—	1,739	32	1 11	107,136	†N.G.
210	—	100	—	1,757	27	1 2	115,056	†N.G.
961	—	1,193	7,388	11,600	85	13 0	85,248	†N.G.
114	—	29	—	721	9	1 7	56,022	30
—	—	—	—	4,739	85	11 16	30,052	6.25
460	56	—	—	648	7	15	156,197	4
—	—	90	—	1,624	5	2 8	646,000	34.2
13	—	—	326	358	16	7 6	2,740	†N.G.
225	150	—	—	512	7	9	71,500	12.8
79	—	—	—	149	5	5	32,000	12.6

† Not given.

The most realistic figure to use for purposes of comparison is cost per employee. If you use cost per separation the firm with the highest labour turnover could have the smallest cost per separation. Cost as a percentage of total production cost is very much affected by the degree of capital investment involved. (Labour turnover could also be expressed as a percentage of the total wage bill which is easy to calculate.) Whichever method is used, it will nevertheless be found that costs vary tremendously from firm to firm. For example, the table shows that, using the cost per employee method, labour turnover adds from 5d. to £3 per week to the wage cost of each individual.

Apart from the level of labour turnover, the main factors which appear to affect the cost are the impact of learners on production, the extent to which saleable output is lost and the methods used to make up for output losses. The amount a company decides to spend on training, interviewing and induction is also, of course, an important factor.

The investigation suggests that it is important to find out whether or not sales *are* being lost as a result of labour turnover. If so, these losses may be far more serious than the actual financial cost implies. They may lead to loss of potential customers and to a diminution of goodwill which could have a most far-reaching effect on a company's prosperity.

Morale Costs

Anyway, are the most serious effects of labour turnover measurable in financial terms? There is the strain on management and on the loyalty and team spirit of the workforce as a whole and the loss of tempo that occurs when that workforce is continually chopping and changing. The quality of decision, as well as that of the product, might also suffer.

It may indeed be necessary to tackle this problem by spending more money on the personnel, medical and training departments. Even though this were to offset the money saved by decreased production costs, the non-financial losses already mentioned may well begin to disappear. None the less, firms with high wage rates and good fringe benefits often have high labour turnover, so it cannot be positively asserted that spending money in this way will automatically reduce labour turnover.

The report of this investigation, which is shortly to be published, is a worth-while study and I commend it to all managers concerned with labour turnover.* Inevitably, it has shortcomings, the first being that it covers only 16 firms. Second, because firms don't keep good enough records on the subject, some items are merely estimates. Third, the time covered was only three months. Finally, some very real items of cost, such as loss on overheads, are ignored.

But we know that labour turnover costs us a great deal of money—money that is entirely wasted. And it is not enough that managers merely express their awareness of the fact. One wonders whether they are equally resigned about such items as scrap cost and machine break-down costs. The arguments in favour of attempting to cost labour turnover are similar to those supporting the cost analysis of any other item.

* Published by B.I.M. Publications, Management House, 8, Hill St., London, W.1.

Management News & Ideas

"Honour Cards" for Clock Punchers

CLOCKING-IN is on the way out in Midland shops, offices and factories, according to trade unionists in the area. This is stated in a recent number of the *Birmingham Post*, which goes on to say that many employers have abandoned "robot time-keepers" in favour of friendlier methods.

An experimental system is now being tested at the Birmingham works of V. Siviter Smith and Co., designers, photographers and photo-engravers. Employees who had previously "punched clocks" twice daily now keep their own record of work on specially designed "honour cards".

"I think it is an experiment which has come to stay", Mr. P. Siviter Smith, the managing director, reports. "Clocking-in is a bit old-fashioned and not good for the dignity of the workers. I would not like to do it myself.

"A feeling of trust between management and man is important in human relations. If a man is placed on trust he is more likely to be trustworthy. It was an easy matter for anyone who wanted to diddle the time-clock to do so", he added.

"There has been only one snag. Many men began reporting for work 30 minutes later in the morning and working half an hour longer at night", he explained. This meant that men who had come on at the correct time in the morning had to stay on longer at night to enable latecomers to put in a full day's work. This meant the 'early birds' were paid overtime."

Mr. H. A. C. Tracey, national secretary of the Institute of Industrial Supervisors, commented: "It may be a good idea for the smaller, more intimate, companies, but hardly practicable for the larger ones employing many thousands. While clocking-in is becoming a thing of the past in shops and office it will take longer for it to disappear from factories."

Mr. M. G. Pate, secretary of the Birmingham branch of the Institute of Personnel Management, states: "It might take time but clocking in is definitely on the way out, employers realise that the men do not relish this undignified job every day and are placing more reliance on human supervision.

"Ensuring that men are working their full time is becoming more and more the responsibility of individual foremen."

Brainworkers Inc.

WITH the aim of advancing the latest managerial techniques of control, The United Steel Companies Limited are establishing a new central department of operational research and cybernetics. Based in Sheffield, the department will serve all the branches of the company with advice and recommendations on operational research problems, and will provide the personnel to carry out its proposals. Because the whole concept of operational research is itself relatively new, it will also conduct its own research projects and initiate training schemes for those joining its staff.

Initially, the department will have a staff of about 25 research workers, drawn from every branch of scientific endeavour. They will include biologists, physicists, psychologists, engineers, economists, mathematicians and logicians. Recruitment of additional specialists is proceeding.

It is believed that the new department will be the first in the country to make a formal study of cybernetics—the science of communication and control in the animal and the machine, which seeks to study the analogy between their structure and function. The ultimate objective of this study is to reproduce, by means of mechanical and electronic analogues, the thinking, learning and discriminating aptitudes of the human brain. Already, a number of experimental analogues have been constructed, though some considerable period is likely to elapse before full managerial use can be made of this science.

Courses for Grocers

A NEW one-week course specially designed for top-level executives in the larger multiple grocery concerns is to be held in March, 1957, by Urwick, Orr & Partners Ltd., a leading firm of management consultants. There are some 1,600 of these concerns in Britain with ten or more shops.

The course will concentrate on the problem of reducing costs and increasing profitability by means of modern management techniques, and will be held from March 11 to 15, 1957, at Slough, Bucks. It is residential at an inclusive fee of 50 guineas. The tuition, by the firm's consulting staff, will be supplemented by case-studies and discussions.

Diesel not Lethal?

PRELIMINARY results of a study of the health records of employees in the London Transport Executive do not bear out the suggestion that diesel fumes are making a serious contribution to the excess of lung cancer suffered by city dwellers. Dr. P. A. B. Raffle, the Executive's senior medical officer, revealed in a recent talk to the Royal Society of Health on "The Health of the Worker" that among engineering staff at bus garages, who are more exposed to exhaust fumes than other transport workers, the incidence of the disease was no higher than in the rest of the community.

TEA BARS SAVE MAN-HOURS

By building a tea bar in the main factory grounds, Lewis Berger (Great Britain) Ltd. saved 500 man-hours a week. Previously workers had to make the comparatively long journey to the canteen so that the total time for each break averaged 25 minutes. The time and money saved on the tea-bar are said to have paid for its installation.

Let's Mobilise Our Ideas

Sir,

I congratulate Mr. Philip Barron on the excellent case he made in your December issue for a National Association of Suggestion Schemes. If it was run with vigour and imagination, such an organisation could become the key to Britain's full recovery.

Since the only way (in the ultimate analysis) to get progress is by the employment of better ideas in substitution for existing practices, one would assume that society would insist upon the existence of sound procedure in all spheres for bringing new ideas to light and for getting them quickly into action. Nothing, literally, should be easier than to get a new idea properly examined and dealt with. The fact is, of course, that few things in this country are more difficult, and this is undoubtedly a main reason for the series of crises since the end of the war which have brought us to our present precarious position.

Of course there should be some form of national organisation (certainly with the blessing and, possibly, with the assistance of the Government) to stimulate the free flow and encourage the proper treatment of ideas for improvements. In order to focus attention upon the need for such a body, I got the late Sir Waldron Smithers, who was then M.P. for Orpington, to ask the Chancellor of the Exchequer if he would set up a committee to be presided over by a prominent Queen's Counsellor, at which evidence could be taken on oath, to examine and report on the existing methods of dealing with ideas and suggestions in State organisations, and to recommend improvements in these methods. The Chancellor's reply was "No!"

As I still believe that such a committee would serve a most useful purpose by drawing the nation's attention to this subject, I have asked Mr. Graham Page, the M.P. mentioned by Mr. Barron in his article, if he will try to get such a committee set up. Let me suggest, therefore, that if any of your readers have views on this matter, or might be able to give evidence which would be helpful in demonstrating the need for better procedure for dealing with suggestions for improvements, they should communicate with Mr. Page without delay.

Yours faithfully,
P. Clavell Blount,

125 Oxford Street, W.1.

Factory Equipment on Show

THE fifth Factory Equipment Exhibition is being held at Earls Court from April 29 to May 4, and will occupy 250,000 square feet. Products and services of some 300 manufacturers will be on display, including those of some oversea firms.

Electronic Groups

A SPECIAL sub-committee of the Office Management Association has been formed to study developments in the processing of accounting and commercial data by electronic means. And as most of the British experts in this field are already members of the Association, it is felt that this will provide a unique service. In addition the O.M.A. 1957 Conference, to be held in Scarborough in May, will aim at bringing delegates up to date on the subject by dealing with the practical application of this equipment.

Special study groups on the subject are also being formed in Birmingham, Bristol, Liverpool, London and Nottingham.

As yet, there are few computer installations in this country concerned with commercial work, and it is probable that during the next year or two only the larger firms are likely to apply the technique. The Association believes, nevertheless, that the desire for knowledge about computers and their uses in industry is very widely spread indeed.

Money for N.I.I.P.

"AN enormously important development which would for the first time give the Institute a reasonable amount of money to spend on general research on lines which they could determine themselves." That is how the director of the National Institute of Industrial Psychology, Dr. C. B. Frisby, describes an annual grant which the Institute is to receive for the next three years.

The grant, up to a maximum of £8,000 a year, will be made by the Department of Scientific and Industrial Research, and will enable the Institute to undertake an extended programme of research into human factors in industry. It will be related to the amount which can be raised direct from industry in the form of membership subscriptions and special contributions.

Technologists Deferred

THE Government has decided to increase the number of scientists and engineers who may be granted indefinite deferment of National Service. Those affected are university graduates who complete courses of study or training in 1957 and who have first class honours degrees in one of the main branches of science or engineering. They will be granted indefinite deferment of National Service only if they take up employment in this country which requires a science or engineering qualification of degree standard.

The existing deferment schemes for scientists and engineers apply, in the main, to graduates employed on work of high priority, in science teaching in schools and, in a limited number of cases, to graduates employed in fundamental research.

Safety News & Views. . . . .

A JOINT standing committee representing employers, workers and the Ministry of Labour has been set up at Stoke-on-Trent to advise on safety, welfare and health in the potteries. The committee will have its first meeting on May 7 but is meanwhile preparing an analysis of accident statistics in the industry. Some problems that are likely to be considered are the need for safeguarding the new machinery now being introduced, those arising from dust and heat exposure, and the question of lead poisoning and silicosis.

Don't Use Blowlamps

IT is *not* safe to use blowlamps to thaw out frozen pipes and tanks—states a leaflet issued recently by the Fire Protection Association. In these winter months when most people are studying weather forecasts and thermometers with an apprehensive concern for the plumbing system, this leaflet comes not merely as a warning but as a detailed plan of campaign to beat the frost and guard against fire at the same time.

Fire after Frost is intended mainly for householders, but its suggestions apply to all water users, large and small. Free copies can be obtained from the Association's offices at 15, Queen Street, London, E.C.4.

DISASTROUS delays in calling out the fire brigade to a night fire on industrial or commercial premises are often the fault, not of the watchman, but of the management. This point is made with emphasis in the recent issue of the Fire Protection Association's Journal.

Too frequently, it appears, the person who instructs the watchman tells him that if anything happens he is to get in touch with the owner, the manager, or some such responsible person. The association also makes these points on fire precautions:

1. Watchmen are not accustomed to making decisions of judgment. Make it clear that the fire brigade is to be called before all else.

2. Make sure a telephone is within easy reach of the watchman's beat. If necessary, install several phones for a long beat. Display fire instructions by each instrument. (The F.P.A. supplies suitable cards for this purpose.)

3. With automatic warning installations, make sure an alarm bell is near the watchman's rest room.

4. Select watchmen more carefully. A prevalent practice is to employ the poorest type of worker for this job. Often the possibility of a fire is not even considered. **(Business.)**

TV on the Shop Floor

New Applications Make Work Easier and Safer

SECURITY. A guard at a department store in Needham, Massachusetts, operates a remote controlled closed circuit TV system from his office. Cameras more than 1,500 feet away enable him to keep a watch on dock and warehouse areas.

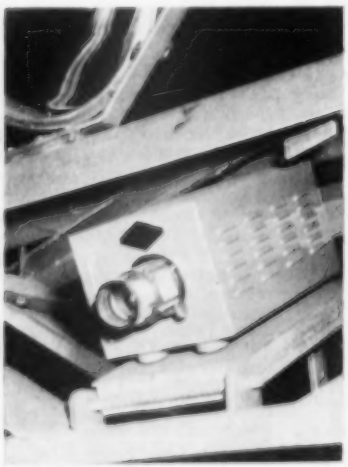
TELEVISION would be a poor thing indeed if, as is often contended, its sole purpose was to keep the mass mind in a state of suspended animation. Happily, there are signs that this is not the case even with programmes designed for public consumption.

Yet it is among the subsidiary uses of television that we shall probably have to look for any real and lasting benefit to mankind—among the thousand and one uses to which it is now being put in medicine, science and industry.

Where this last is concerned, the application of TV is still in its infancy but the pictures on these pages (kindly loaned to *Personnel Management & Methods* by the American magazine *Supervision*) point to a host of new possibilities. Training, handling, safety and security in the works are the fields illustrated here.

Available evidence suggests, however, that the industrial application of TV is much more advanced in the U.S.A. than in Britain—and, of course, this is not the first time that a British invention has been developed and applied elsewhere while we sit back and bask in the initial achievement.

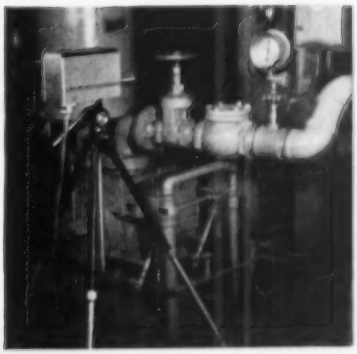
To begin with, then, could not firms busily engaged in training new operatives examine whether closed-circuit television could speed up instruction? Could companies whose works are scattered over a number of acres see if the technique was likely to help safety and security policies? Can we in fact rid ourselves of the attitude that says "These things may be all right for the States *but* . . ."? **THE EDITOR**

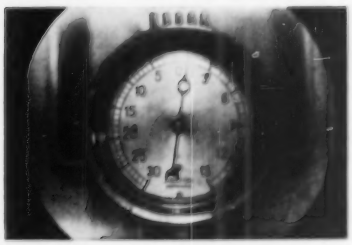


PRODUCTION. A television camera mounted at the back of a reheating furnace at the Geneva, Utah, works of the United States Steel Corporation. Television is used in this instance to control the pushing of 4-ton steel slabs into reheating furnaces. Right, the charger watches the operation of two furnaces on television screens.

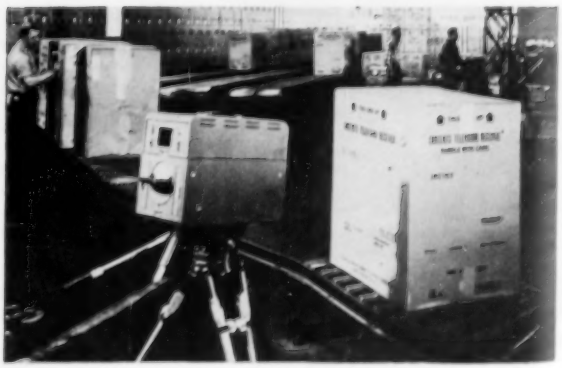
TRAINING. Closed circuit TV for on the job training. RCA is using its own equipment to help train employees in intricate assembly work. The woman on the right is guided by the screen picture of the instructor's finger movements.

TRAFFIC CONTROL. This clerk in the central office of a Chattanooga freightyard records inbound traffic from three entrances up to two miles away. Installation allows clerk to record two trains simultaneously—one visually, another photographically by switching to film camera.





METERING. The system can be used for telemetering of gauges, etc. Above, camera is focused on gauge dial and, below, the image on the receiver screen.



CHECKING. At the Du Mont television receiver plant in New Jersey, production managers in their offices are able to make quick visual checks on outgoing goods.

A toolmaker apprentice receives instruction from his foreman.

This Group Scheme Helps The Small Firm Train its Youth

By PHILIP DREW

Innumerable small firms are still unable to "go it alone" in the matter of training apprentices. But here is how the problem is being overcome by action on a group basis.

"IT may well be true", comments the 1953-56 report of the National Youth Employment Council, "that throughout all its long history the apprenticeship system in this country has never been so virile as it is today."

Non-committal as it is, however, such a comment should not suggest complacency, for this boasted virility is purely relative. It is true that the training schemes of today take apprentices to a much higher standard than those of pre-war days, to the level of the technical college, and in many cases opening the door to a university degree. But today's demands are for quantity as well as quality. The present need for skilled craftsmen will grow more desperate as the years go by unless this link in the chain of production is rapidly strengthened.

With the challenge of competition and automation looming larger every moment the engineering industry (to take one example) must undergo a marked expansion: there must be not only more machines but more skilled men to operate them. There is no doubt that the industry is awake to the problem, but the solution is quite a different matter.

The majority of existing apprenticeship schemes in Britain are operated by large concerns possessing the wide and varied range of processes necessary for giving a boy a thorough training in his craft. But there is a limit to the numbers they can accept at present. Mobilisation of the smaller firms is the only alternative. There are many thousands of these companies in the country, employing less than a hundred workers, and consequently ill-equipped for multilateral training programmes; yet they are each able to give an excellent specialised training in a few processes.

"This potential can be utilised by co-ordinating and amalgamating the resources of a number of firms." This suggestion which embodies the most likely solution to the problem that has been put forward, occurs in the brochure of an organisation which has pioneered this relatively new system of apprenticeship.

The scheme, called the Engineering Industries Association Group Apprenticeship (E.I.A.G.A.), was introduced in 1954 by the Association in conjunction with Industrial Administration (R. & A.) Ltd., a firm of management consultants, as a joint effort to solve the problems of the smaller and specialised firms. The Association's membership of over 5,000 includes many such companies.

The aim is to provide a comprehensive training for each apprentice indentured to such a company by transferring him from firm to firm and from process to process within the group until training is completed. Thus a boy starts his apprenticeship with his sponsor company in the craft he wishes to learn, and spends his final year back with that company in specialised training. The period between is spent in courses with each firm in the group, with complementary training facilities. He always returns to his parent company between transfers to keep the chain of loyalty unbroken.

A Growing Movement

The first group to be formed was in the West London area under the chairmanship of Mr. D. A. Gunn (managing director, D. A. Gunn (London) Ltd.) with the support of Lt.-Col. R. H. Rohde (E.I.A. London Regional Secretary). Twelve firms within a ten-mile radius joined forces. Since then the group has proved so successful that now 46 companies in the area are participating with 100 apprentices in training.

The success of this group, the largest so far, has led to the formation of several others in the Greater London area at Kingston-on-Thames, Slough, N.W. London and Croydon. But it is intended

that the movement shall become nation-wide, and already there are four groups operating in the Midlands—at Birmingham, Dudley, Bilston and Wolverhampton.

The average group consists of between fifteen and twenty-five firms and must embody as wide a variety of engineering trades and processes as possible with each member firm agreeing to sponsor one or more apprentices. Each firm is responsible for maintaining the normal conditions of employment, including payment of wages and discipline for apprentices working on its premises; it also arranges for apprentices to work under the guidance of skilled craftsmen.

Each firm's financial contribution is in two parts: the registration fee for membership of the group is £5 and there is a monthly payment of £3 10s. for each apprentice. Rates of pay for the trainees are not less than those nationally agreed by the employers and the appropriate trade union. Actual rates paid are standardised throughout the group by the local committee. Wherever it is impracticable to standardise wages the firm actually employing an apprentice pays him the rate he would receive from his sponsor company.

Where additional expenses are incurred (as, for instance, travelling expenses while an apprentice is working on another location) it is normal for the sponsor to cover these payments.

All decisions on policy are determined by a committee of senior executives from the participating firms and meetings are attended by representatives from youth employment services and educational organisations whose advice is sought from time to time.

The Key Man

Routine administration in each group is carried out by an apprentice supervisor appointed by Industrial Administration. In his job of supervising and co-ordinating the boys' training he acts as group secretary, recruits boys through the youth employment service, prepares individual training programmes, arranges between member firms for the interchange of apprentices and follows each one's progress by visiting the factories and technical colleges where he is working. He also interviews the boy's parents before selection to ensure that they understand the conditions of training and the opportunities available, and sends them periodic reports of their son's progress.

He is the one man in the group who can sound the pulse of every aspect of the scheme at all times. Selection for the post demands care and thoroughness equal to the heavy responsibility of the job. For not only must he be a qualified, experienced engineer, but he must enjoy the confidence and trust of every participant. While a large company can afford a certain margin of error in its apprentice selection, and if necessary transfer a sub-standard trainee to other work within the organisation, a small firm must be absolutely certain from the outset that each apprentice it sponsors is a sound investment.

It is vital to the success of the scheme that implicit trust be placed in the supervisor's judgment. The trust of each boy's parents is vital too, for their lack of co-operation could spoil the smooth working of the scheme. Many parents believe their son's chances are greater if he is apprenticed to a large firm with the facilities for a more broadly based training. The natural tendency is for prejudice against a small firm.

It says much for the scheme that in all districts where it operates that prejudice has largely disappeared. It says much, too, for the supervisor's combined abilities of personnel manager and public relations officer.

"The man we have is first class", says Mr. Gunn of the west London group. "He is not only a good selector and a good organiser and supervisor but he is also

HOW EIAGA WORKS

1. *Any firm can join a group providing it employs skilled engineering labour.*
2. *Each member firm agrees to sponsor one or more apprentices.*
3. *The average group consists of 15 to 25 firms, embodying a wide variety of engineering trades and processes.*
4. *Each firm is responsible for conditions of employment, wages and discipline, and arranges for apprentices to train under skilled craftsmen.*
5. *Fees are—£5 for membership of the group and £3 10s. a month for each apprentice.*
6. *Group policy is decided by a committee of senior executives from the member firms.*
7. *An apprentice supervisor recruits the boys, prepares training programmes, and reports on each boy's progress.*
8. *Training consists of supervised work at the parent company and other firms within the group to give comprehensive instruction.*
9. *This is supplemented by study at a technical college whenever the normal method of day-release schooling applies.*
10. *A firm with apprentices already indentured can introduce them to the scheme when it joins a group.*

Electrical instrument testing. Craft apprentices receive some training in work complementary to their craft.

well liked by all the boys in our scheme. But I have no reason to suppose we are particularly lucky. I have seen other groups in operation and in every case I have been impressed by the excellent choice of the man assigned to supervision."

The supervisor's task is the more complex because he has to deal with several types and ages of apprentice. There are five kinds of training provided by E.I.A.G.A.:

Craft apprentices are in greatest demand at present. Their training is based upon the syllabus approved by the Engineering Employers' Federation and the Confederation of Shipbuilding and Engineering Unions. Training programmes are planned individually, taking into account each boy's particular requirements and local conditions. The object is to train skilled craftsmen rather than machine operators, and the scope of training is broader than one particular trade. The many crafts include *machine shop trades* —turner, miller, grinder; *foundry trades* —pattern maker, moulder; *metal working* —welder, sheet metal worker, boiler maker, and other trades such as toolmaker, millwright, fitter, electrician and instrument maker.

To take one example—the course for a turner apprentice normally takes two years in preliminary work (bench work, 10 months; a brief period on inspection; and approximately 12 months' experience in the use of machines) followed by three years' advanced practical training. Brief training periods are also arranged in foundry, welding shop and drawing office work. When his training is completed, the new craftsman has a reasonably comprehensive understanding of most of the trades complementary to his own. Moreover, facilities are provided for an outstanding craft apprentice to further his training in a technician or student engineer apprenticeship.

Candidates for *technician apprenticeships* require G.C.E. qualification in the appropriate subjects. Training, which includes 12-18 months' basic workshop experience, is designed to fit them for technical posts in design, development, inspection, test and similar departments.

Student Engineers

Student engineer apprentices require a higher educational standard and must have G.C.E. in four specified subjects. The training is more general to fit them for senior posts in production, development, or industrial engineering. Consequently basic workshop training is followed by work in various production departments, and a final 12-18 months in the planning department and drawing and works control offices. E.I.A.G.A. apprentices in this category are eligible for the technical state scholarships offered by the Ministry of Education, and other scholarships for a full-time degree course.

Candidates of G.C.E. standard who wish to take posts in costing, accounting, purchasing and secretarial offices are covered by *commercial apprenticeships*. Basic clerical training follows practical workshop experience, and subsequently the apprentice spends a period in each functional office. In the course of his training each boy must obtain examination qualifications in commerce, accountancy or secretarial practice. A short training course in more advanced subjects is offered to selected students.

The fifth and highest level of apprenticeship covered by the scheme is offered to graduates with an engineering degree. *Graduate apprenticeship* covers a period of two years. Arranged in accordance with the requirements of the professional institutions, it provides practical experience in all aspects of manufacture with the parent company, supplemented where necessary by practical work with other firms in the group and leading ultimately to a staff appointment with the parent firm.

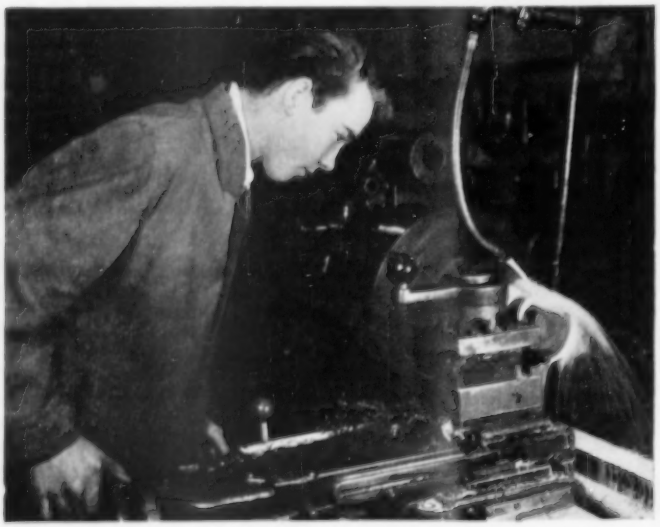
In those apprenticeships (with the exception of *graduate* courses) where theoretical study is necessary the accepted method of day-release schooling is employed, and each apprentice is advised by the supervisor upon the courses he should take. Final examinations take place on completion of all apprenticeships, and an E.I.A.G.A. certificate is awarded to all successful candidates.

Participation in one of the E.I.A.G.A. groups is not reserved solely for members of E.I.A. Any firm in an area where a group is formed or in formation can avail itself of the service, provided it employs skilled engineering labour. Moreover, apprentices already indentured can be brought under the wing of the group at the time of the firm joining the scheme.

On a nation-wide basis E.I.A.G.A. could be a major contribution to solving industry's recruitment problems. Already it has done much in several areas to give hope to the smaller companies whose despondency was summed up by the managing director of a firm employing about 70 workers:

"Apprentice training is one of the most important things. I just wish there was something we could do about it. It's easy for the big industrial group or combine. But in businesses like mine the situation is impossible. If a boy is really keen to get somewhere in a given craft, he leaves and goes to a big organisation where they can afford to invest in him. If he is merely average but shows barely latent possibilities we still cannot afford to put him on the right track, and he will gravitate into a general labourer until he gets his call-up papers. We lose him either way."

The aim of E.I.A.G.A. is to prevent these tragic losses and to set up conditions under which everyone gains—the small firm, the apprentice and the industry as a whole.



Through EIAGA's transfer scheme basic machine training is given to all apprentices on the widest possible range of machines.

People at Work

Train Women for Jobs Available

VOCATIONAL training for women should be more closely related to job opportunities. This view was held by a group of experts on women's employment who met recently at the headquarters of the International Labour Organisation. The experts were drawn from eleven countries including Britain, the United States, U.S.S.R., the Federal Republic of Germany and Sweden.

Other recommendations of the meeting included:

General education.—There should be equal facilities for boys and girls, and girls should have the benefit of programmes in fields other than homemaking.

Home economics.—Instruction should be differentiated according to need, into basic instruction, training for careers in domestic work, and as a basis for such professions as social work and nursing.

Handicrafts.—There should be a reduction in training for needlework and embroidery in industrialised countries.

Production work.—Women should be trained not only for production work, but also for maintenance and repair work and for supervisory work in industry. The training should take account of the increasing versatility required by automation and other new techniques.

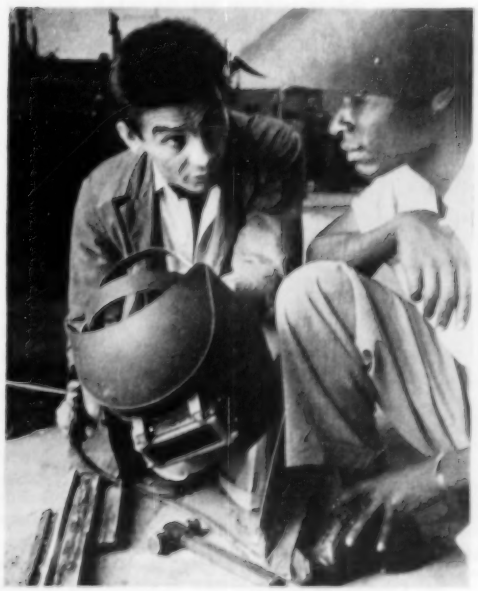
Technical training.—There should be an expansion of training opportunities and admission of girls and women to training at all levels.

Business and administration.—The advent of automation makes it desirable that training should provide the necessary degree of specialisation in office machines and such fields as statistics, accounting and foreign languages. There should be equality of access for women to advanced courses in management and administration.

Ford's Set Up Own X-ray Unit

THE Ford Motor Company Ltd. of Dagenham, Essex, are now operating their own mobile X-ray unit. The unit, which cost £7,500, is intended to visit the company's outlying locations—these extend from Southampton and Croydon to Leamington and Doncaster—in order to provide mass radiography at regular intervals for the 25,000 employees.

The unit is self-contained and only needs to be connected to supplies and electricity. In one section of the vehicle employees will be photographed; in another section the exposed film will be processed and checked for signs of any disease or abnormality of the chest.



SAFETY POINTS

RACE FOR SKILL

ILO expert, Jean-Pierre Combes, shows a Haitian trainee the importance of using a safety mask when welding. More than half of the ILO's technical assistance activities are in the vocational training field, as the need for training workers is felt all over the world.

Factory Facts

IN December, 1955, there were 56,313 establishments in the manufacturing industries in Great Britain employing more than ten workers. Of these, 41,339 employed less than 100 and 79 employed 5,000 or more.

This information is based on returns from employers to the Ministry of Labour and National Service and a detailed analysis is given in December's Ministry of Labour Gazette (H.M.S.O., 1s. 6d.).

In 1952 the figure was 56,638. There was a substantial reduction in the number of establishments employing 11-24 employees which was almost entirely counterbalanced by an increase in the larger establishments. This resulted in an increase in the average number of workers in the establishments from 127 in 1952 to 140 in 1955.

The number of establishments with less than eleven employees is not known but it is thought to be in the region of 150,000.

Ices for Safety

AMERICAN factory workers are being increasingly encouraged to eat ice cream or other foods during working hours to provide additional energy and give the necessary alertness to keep down the accident rate. Many American experts believe that factory accidents tend to occur at times of day when the vitality of workers is at a low ebb through hunger. Automatic vending machines are therefore now provided on most factory floors.

This was stated by Mr. J. A. A. Beer, marketing director of T. Wall & Sons (Ice Cream) Ltd., on his return to London from the World Ice Cream Convention in Atlantic City.

Mr. Beer said that vending machines were now being widely used to sell all sorts of commodities from ice cream to hot coffee. Many U.S. factories had automatic canteens from which workers could get a three-course lunch entirely from vending machines.

Give Them Your Cards

LEDERLE Laboratories, American manufacturers of medical supplies, provide picture postcards, showing a view of one of their plants, free of charge to employees. The cost is reckoned at about half a cent a time. To date some 500,000 cards have been distributed in this way.

Many companies in this country have superb pictures of their plant or processes in their files. Litho reproduction in postcard form would cost very little indeed, and there is no reason why the idea should not catch on over here. Even if a small charge were made to avoid waste, employees might still find it more convenient to send "factory" cards than go to the trouble of buying others. **(Business.)**

This postman is wearing an experimental fog shield developed by the Department of Scientific and Industrial Research in consultation with the Medical Research Council. The shield is a piece of plastic folded about the chin, leaving the mouth and nose free, but supporting a tiny bottle of ammoniac crystals, which neutralise the dangerous compounds in fog. The shield is said to be no hindrance to talking and breathing.

New Year Honours for Personnel People

THE New Year Honours List for 1957 included a number of people in the industrial and allied fields of human relations, training and welfare. Awards were as follows:—

Knight Bachelor: Noel Frederick Hall, principal, Administrative Staff College, Henley-on-Thames.

C.M.G.: Mr. A. M. Morgan, assistant secretary, Ministry of Labour and National Service.

C.B.E.: Mr. W. L. Baillie, director of technical personnel administration, Ministry of Supply.

O.B.E.: Miss J. D. Bruce, director, Scottish Country Industrial Development Trust; Mr. W. A. Morrison, general secretary, National Union of Printing, Bookbinding and Paper Workers.

M.B.E.: Mr. C. H. Evans, personnel manager, Automatic Telephone and Electric Co. Ltd., Liverpool; Mr. W. H. Hopkins, works manager, E.M.I. Factories Ltd., Wembley; Mr. E. A. Middleditch, general production manager, de Havilland Aircraft Co. Ltd., Chester Works; Miss D. M. Thomson, chief welfare officer, Air Ministry; Mr. J. E. Tyrie, trade union organiser, National Union of General and Municipal Workers.

B.E.M.: Mrs. E. Benge, deputy canteen manageress, R.N. store depot, Cricklewood; Miss O. Birch, chief of welfare section, Meridian Ltd., Nottingham; Mr. J. H. Matthews, labour officer, Monsanto Chemicals Ltd.

APPOINTMENTS. . . .

SIR RUPERT DE LA BERE, Bart., K.C.V.O., has been elected the first President of the London branch of the Institute of General Managers. Sir Rupert was Coronation Lord Mayor of London in 1953 and was a Member of Parliament from 1935 to 1955. Among his many industrial and commercial interests he is deputy chairman and joint managing director of *Hay's Wharf Ltd.*, and director, *Union Assurance Society Ltd.*

MR. J. N. GIBSON has taken the post of training officer on the staff of the National Coal Board. Previously he was training officer to the London County Council and is currently writing the series in *Personnel Management & Methods* on "How to Train Office Workers."

THE RT. HON. LORD McCORQUODALE OF NEWTON, P.C., a vice-president of the British Employers' Confederation, has been appointed chairman of the British Productivity Council. The new deputy chairman is **MR. LEWIS T. WRIGHT,** general secretary of the Amalgamated Weavers Association and a member of the General Council of the T.U.C.

The National Coal Board has appointed **MR. W. H. SALES** to be chairman of its North Eastern division. He succeeds **MAJOR-GENERAL SIR NOEL HOLMES** who has retired. For the past three years Mr. Sales has done valuable work as the board's labour relations member.

MR. ARTHUR WHITE has been appointed acting personnel manager at the Willesden factory of the *Triplex Safety Glass Co. Ltd.*, in succession to **MR. T. R. EVANS,** who died recently. Mr. Evans had been personnel manager since 1946.

L. W. Bailey & Partners Ltd., industrial and management consultants, announce the appointment of **MR. ERIC WARD, A.M.I.Mech.E., A.M.I.Prod.E.,** as technical director. He was previously manager of the production division, BIM, and for some years before this he devoted much of his time to matters concerned with materials handling and the layout of manufacturing plant. In 1952-53 he spent six months in the United States investigating activities in the same field in a variety of industries.

Any Spare Work?

IN our October issue we described the work of the Hackney Association for Workshops for the Elderly. The light work which the pensioners do in their two-hour shifts is provided by firms who have taken an interest in the scheme. Much of it is of a routine nature such as fixing price tags or cutting out lengths of material for scarves, and many firms find it to their advantage to send this work out. The success of the workshops depends upon the continuous supply of such outwork, and any firms wanting to make use of the service should contact the organiser, Miss A. W. Magee, 230 Rushmore Road, London, E.5.

The Association extends a welcome to anyone who wishes to visit the workshops and see this interesting and worthwhile scheme in operation. Intending visitors should apply to Mr. Alan J. L. Jacobs, Hon. Sec., Hackney Association for Workshops for the Elderly, c/o Willerby Ltd., Pembury Road, London, E.5.

THEIR INFINITE VARIETY

Factory clocks are an outstanding feature of the display at the new showrooms of Smiths Clocks & Watches Ltd., 179, Great Portland St., London, W.1.

Induction Courses Should Prompt Two-way Communication

The basic aim of an induction course is to give information in such a way that the trainees' interest is aroused. Then they will begin asking questions and really take part in the course. Whatever happens, management should not do all the talking.

By J. N. GIBSON, B.A., LL.B.
Training Officer, National Coal Board

NEW recruits should not be given formal training at an induction course until after about ten to sixteen weeks have elapsed since starting with their present employer. I know many would not agree with this view, and I would certainly not be dogmatic about anything so controversial, but placing the induction course at this point in the training scheme seems to have at least three advantages:—

1. *Real misfits will probably have left.*

2. *Every trainee will have gained some first-hand experience which will help to give definite meaning to the more abstract parts of the course, e.g. talks on office method or on legal requirements.*

3. *Insufficient time will have elapsed for the attitude of "I know it all" to have developed.*

Nevertheless, the trainer at induction courses must himself be specially trained in methods of presentation. He should use modern visual aids—films, film strips, cloth boards, working models—but must not be afraid to use older methods where appropriate. Short talks (not more than 20 minutes) by experienced officers, even if they are not trained speakers, have great advantages if followed by sufficient time for questions. I shall have some more to say about this later.

But it is of the first importance that methods should be used in which the trainees participate in what goes on—e.g. discussions of various kinds. In these, trainees become their own instructors in the sense that they generate their own enthusiasm and desire to learn.

The *content* of what is learned remains under the control of the trainer. Some methods are more suitable for some topics, and others more suitable for other topics. What methods should be used, and when, will become clearer after the objectives and content of the induction course have been discussed.

The objectives of the course are to give information about the firm which the new entrant should have to help him to do his work intelligently and to develop an interest, not only in what the firm does but also in the people it serves; to answer any questions that are puzzling new entrants; to develop the elements of

THE CONTENT OF MANAGEMENT
MANAGEMENT IS CONCERNED WITH:
A. THE INDIVIDUAL
B. THE SOCIAL UNIT
1. WORK
1A. THE TASK
1B. ARRANGING & CORRELATING TASKS
2. PEOPLE
2A. ADJUSTING THE INDIVIDUAL TO THE TASK
2B. MOTIVATING & INTEGRATING THE GROUP

suitable skills, and to overcome shyness or reserve that may impede communication.

Of these aims, by far the most important is the first—to present basic information in such a way that interest is aroused, because after the course is over it is the trainee who has developed this interest who finds out more about it in his spare time. In this way the firm will build up a body of office workers who are not only well informed and anxious to improve their skills, but who also have high morale, i.e. a high level of willingness.

Even more than this can be done. If trainees are encouraged to see their firm in its *social* setting, to appreciate the service it renders to the community, something akin to enthusiasm often develops.

The training officer must be prepared for this. He should be equipped with enough knowledge to answer most of the questions that even the most ingenious trainee could put to him. He should also supply himself with a few good reference books if he is to meet the demands of the enthusiasts. And he must be ready to embark on short or long discussions with groups of them at almost any time.

Social contacts among trainees, and between trainees and senior men are important. Much is learned in this way. The spirit of the firm is conveyed and esprit de corps is created. Social contacts also create the right atmosphere for discussion. *For these reasons induction courses are more successful if they are residential and if top management takes a real interest by sending its representatives to visit each course—perhaps to speak for a few minutes, but certainly to mix with the trainees.*

How much can usefully be covered in an induction course? This depends largely on how homogeneous the work is. If departments are doing the same kind of work there is much common ground and the induction course can cover it comprehensively; but where the trainees are drawn from departments doing different work not so much can be included. But the temptation to include as much as possible must be resisted. Induction courses are to help people to see the wood, not the trees.

The syllabus of the induction course should include as a minimum:—

Introduction (10 to 15 minutes)

Given by the training officer, explaining the aims of the course, what it will cover, and what methods will be used. Trainees are more receptive if the all-too-frequent fear that the course will consist of a series of lectures is dispelled at the outset by telling them that discussions, films, demonstrations, visits, etc., are to be expected.

Every trainee should have a time-table which shows briefly—and plainly—the scope of the course and how the time is distributed between the topics studied, *but what is needed at this all-important introductory stage is not so much an elaboration as a "humanisation" of the bare facts.*

At a residential course, for example in a country house, the training officer should also indicate how to get to the nearest towns and what facilities exist on the premises for spending spare time agreeably, i.e. library, tennis courts, games room.

Short Talks

Distributed over the course, and none of them more than 20 minutes, given by visitors from top or middle management, covering the history of the firm, what it aims to do, its present organisation and any impending changes. At least one visitor from top management ought to be able to spare 20 minutes, with another 20 minutes for questions afterwards.

This is not time wasted, because an important visitor tends to stimulate interest by his mere presence. Because of this, the speakers need not be trained speakers, but they must be audible and able to give a bird's-eye view of their subject without overloading it with detail, and they must be able to handle the questions afterwards.

A "Brains Trust"

Consisting of the visitors and the training officer. Because of the importance of active participation in the course by the trainees if team spirit is to become a reality, to satisfy trainees' legitimate curiosity about the firm and to help them solve their own problems of adjustment to their new working environment, it is essential to provide an opportunity for trainees to ask whatever they like and to get an authoritative answer, or an explanation why an answer cannot be given.

An Instructional Visit

Conducted by the training officer or other competent instructor, at which processes relevant to the trainees' work, e.g. the operation of office machinery—can be observed and (most important) understood.

Visual Aids

To illustrate the work of the firm. These must be chosen with great care, to ensure that they really do illustrate salient points in a meaningful way, and they must be followed by discussion guided by the training officer so as to bring out and stress the principles and procedures that must be remembered.

Using two senses at once, as for example, sight and hearing when on visits or watching films, does help trainees to acquire information quickly and surely, and to remember it when acquired. For this reason visual aids should be used at all talks, though they need not be very elaborate—wall charts or diagrams are enough if they illustrate clearly what is said and are visible from the back of the room.

But this is only one-way communication, and we need to go further than that if training is to have its maximum effect. To get the best value for its money, management should not do all the talking.

Listening to what the trainees have to say enables the training officer to gauge their needs, and to make sure that they are given the information and guidance they want to meet their specific needs. No training course, however good, can do this if it is based on the assumption that management alone knows what the trainees ought to be told. This assumption results in courses aimed at the average man, which consequently miss the individual.

This is the reason for the failure of many otherwise good training courses—they make no contact with the men themselves or with their interests. To make contact with the individual we must ask him what he wants to know—and give him the answers. The questions after the talks and the "Brains Trust" are hardly sufficient to do the job properly.

At every induction course, therefore, the training officer must foster the spirit of enquiry—he must make it clear to all trainees that they are not only invited but expected to ask questions, and the more questions the better. And he should ask questions himself. He should use the Socratic method, leading his students on by carefully chosen questions and statements until they have drawn the conclusions he intended them to draw.

This kind of training is more than mere information-giving—it is teaching men to think, to analyse a complex situation. It lays the foundations of future managers.

The induction course should be followed by further training at the desk, and by occasional talks or discussions on salient features of the work at regular intervals, especially when organisation is changed, or new principles or methods are introduced. Post-induction training places particularly heavy burdens on the supervisor for whom training should also be arranged.

NEXT MONTH—

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To remind you...

that **if you have a vacancy to fill,** junior or senior, skilled or unskilled, you should get in touch with the Officers' Association. This organisation is an Employment Bureau, and it has on its books much promising material. If the Officers' Association introduces a man, you may be sure that he is a candidate of complete integrity, potentially suited for that particular job, and well worth interviewing.

Next time you have any vacancy whatsoever, why not first try the Officers' Association? Ring them at **Abbey 2556** or write to **Dept. P.3, The Officers' Association, Windsor House, Victoria Street, London, S.W.1.**

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chapters devoted to the problems of

The Firm that Spent too Much

WE are subscribers to your journal, and wondered if you can help on a catering problem affecting one of our associated companies.

Towards the middle of June of this year we opened a transport café in the Highlands, to be run in conjunction with a garage and petrol-filling station.

The accounts for the period from the opening of the restaurant to 31st October show a very low profit, and the ratio of gross profit to turnover is much below what I expected.

I enclose a copy of the profit and loss account, and should welcome your observations.

I should point out that the manageress of the canteen and her husband live on the premises free of charge, but receive no wages in cash. The other two employees receive all meals free.

The current charges are as follows:—

	s.	d.
Bed and breakfast	10	6
Supper, bed and breakfast	13	6
Breakfast	3	6
Lunch (including cup of tea)	3	9
Lunch (excluding cup of tea)	3	6
High tea	3	6
Tea and sandwiches	1	6
Coffee and biscuits	1	0

On an average five breakfasts are served per day; 15/20 lunches; 7/10 high teas; 15/20 afternoon teas, morning coffees, tea and sandwiches, etc. (R.B., Scotland.)

Approximate Profit and Loss Account for period from 20th JUNE, 1956, to 31st OCTOBER, 1956 (19 Weeks)

Food Used:—				*Drawings:—*		
Grocer—Purchases	£276 19 7			Cigarettes	£270 4 7	
Less: Stock	25 0 0			Ice Cream and Confectionery	46 5 2½	
		£251 19 7		Accommodation and Meals, say	932 0 3½	
Butcher		234 9 6				
Baker		16 16 7				
Eggs		94 10 8				
Milk		62 1 9				
Ices and Confectionery—						
Purchases	£42 18 0					
Less: Stock	—					
		42 18 0				
Cigarettes—						
Purchases	£291 10 7					
Less: Stock	25 0 0					
		266 10 7				
Lemonade		16 10 0				
		£985 16 8				
Less: Food consumed by staff, say		153 0 0				
		£832 16 8				
Gross Profit—carried down		415 13 5				
		£1,248 10 1			£1,248 10 1	
Wages and National Insurances (2 employees)		£111 17 9		Gross Profit—brought down	£415 13 5	
Food consumed by staff, say		153 0 0				
Petty Cash		30 0 0				
Lighting, Heating and Cleaning		56 12 3				
Rent, Rates and Insurances		30 0 0				
Stationery		10 0 0				
Depreciation		20 0 0				
Net Profit		4 3 5				
		£415 13 5			£415 13 5	

N.B.—Four persons have all meals in restaurant.

Our Canteens Adviser Writes:—

The money received for accommodation should appear as a separate item on your profit and loss account. It would then be possible to see at a glance the position with regard to the amount spent on food and the receipts obtained from its sale. A separate column might show the percentage spent on food as against revenue from its sale. This would bear in mind, of course, the figures showing opening stock, purchases, closing stock and staff meals (at cost).

Eggs

From the information available it would appear that the amount of money spent on eggs is more than twice what it should be. The discrepancy must be therefore, either

(*a*) the figure quoted is incorrect, or
(*b*) the number of breakfasts and high teas is wrong, or
(*c*) the eggs are going astray.

Of these possible conclusions it is more than likely that (*b*) is correct and that meals are being supplied without record being made.

Soup

The use of tinned soups will obviously raise the cost price of the meal and thereby reduce the margin of profit. It is not difficult to make soup for 20 lunches each day without persistent recourse to the already prepared tinned varieties.

Vegetables

The position with regard to tinned vegetables should be examined on the grounds of economy to say nothing of the desirability of fresh produce. It may be argued that there is no waste with tinned vegetables but it should be borne in mind that the trimmings of vegetables find their way into the stock pot and the soups.

Tinned Fruit

This again is an expensive item and its use should be restricted. The changes need to be rung on the sweet question and the fullest use of suitable alternatives made: steamed sponge pudding, flans, and pies where appropriate.

Stationery

The amount spent on stationery seems rather high and warrants query.

Cigarettes

Your profit figures are incorrect. Although you are well aware of the percentage of profit which is allowed by your wholesaler and thereby you have a check on stock, it is recommended that as a precaution you adopt some system of bin card so as to regulate your stocks and prevent possible pilfering.

Ice Cream and Confectionery

By confectionery it is taken that sweets and chocolates are intended. It might be wise to include your sales of lemonade under this heading.

Staff Meals

The figure to be allowed for staff meals should be that of the cost of the meals, not the selling-price. The amount of staff needed to run an establishment of this kind depends largely on the number of hours during which the restaurant is open. This information is not given.

Dietary

The main point to watch is that of over-preparation and subsequent waste. It is most important that the manageress should know *exactly* how many portions can be obtained from any tin of fruit, or any size of made-up dish, or joint of given weight. This is the key to successful catering.

Records

The simplest book-keeping will make it possible to show not only what comes into the store but what goes out, when it goes out, and for what purpose it is used. Similarly, with meals served, some record must be kept. A board in the kitchen could be used to record the meals served as they are issued.

Today's Ideas in NEW BOOKS ★ NEW FILMS

LEGAL GUIDE

Trade Union Law. *Stevens & Sons Ltd., 12s. 6d.*

THE law affecting Trade Unions has been altered twice since the war, with the Trade Unions and Trade Disputes Act of 1946 and the 1951 Industrial Disputes Order. But apart from these major changes, management and unions have continually to keep abreast of court decisions which have an important bearing upon their relations.

It is because events in this field are never at a standstill that this book has already run into five editions since 1946. The author is a barrister-at-law whose other publications have dealt with factory and industrial law, the Essential Work Order and industrial injuries.

After defining and classifying trade unions and their membership he considers the law affecting disputes, criminal conspiracy and intimidation and devotes separate chapters to union rules, registration and rights of property. Those restrictions to which unions are subject when they set up a special fund for political purposes are dealt with comprehensively and an appendix summarises the effect of the 1946 Act. A second appendix will help all union officers who have difficulty with the intricacies of official form-filling.

The book is lucidly written and should be kept handy by management and union officials alike. It will serve as a useful, concise guide in most problematic situations arising from relations between workers and employers at union level.

PENSIONS PANORAMA

Pension Schemes and Retirement Benefits. Gordon A. Hosking. *Sweet & Maxwell, 42s.*

FOR good or bad, the Welfare State has not yet reached Utopian proportions where saving for one's old age becomes an unnecessary and tiresome commitment. Until the Finance Act of 1956, however, this form of saving had its attendant hardships: only those in pensionable employment could obtain tax relief; the others had to skimp today to pay for tomorrow.

Now the position has changed. All employees in non-pensionable jobs, including the self-employed, can economically set aside a proportion of their earnings in pension schemes. For the employer, too, there is tax relief to be gained from such a scheme instituted for his workers, but to set one up properly involves a study of the Factory Acts, which with the many legal technicalities contained creates a pressing need for a layman's interpretation.

The need is filled by this 372-page volume which dispenses with lawyer's language, whilst still dealing with the subject in its necessary detail. Largely based on *Superannuation Schemes* on which the author collaborated shortly after the 1947 Act, it now covers a much wider field.

There are many questions arising after the decision has been taken to set up a pension scheme: What level of pension is to be granted? Shall it be related to salary or wage? Should National Insurance pension be taken into account? Should employees be invited to take part in the scheme, and to what extent? This book does not set out to give the answers: these will vary greatly according to prevailing circumstances. Its aim is to discuss every aspect of pensions and the relevant passages of the Acts, so as to give everyone concerned a clear picture of the implications of each method of instituting a pension scheme.

If after digesting the greater part of the book an employer still needs persuading, one of the last chapters discusses the advantages awaiting him, and there are chapters reviewing the effects of pensions upon the country's economy, and the background of similar schemes in the United States.

ANGLO-AMERICAN TOME

The Year Book of Education, 1956. *Evans Brothers Ltd., 595 pages, 63s.*

THE recent BACIE conference on the school-leaving age and day-release classes revealed industry's close interest in educational needs and problems. This publication will consolidate many of the points discussed there, and will also provide some valuable background information on educational resources, society's demands and economic considerations. As a joint Anglo-American project—published in association with the University of London Institute of Education and Teachers College, Columbia University, New York—it offers a useful comparison of problems and methods in both countries. Indeed, it gives examples from many parts of the world, including a chapter on a subject of immediate concern to Western industry and educationalists—technical education in the U.S.S.R. One section which will appeal directly to industry consists of sixteen chapters devoted to the problems of management, ranging from equality of educational opportunity to the training of executives in the United States.

Apart from its specialised interests, however, the book offers a comprehensive picture of what education is to-day and what it must be in the future if it is to contribute effectively to economic prosperity. No-one would deny that this is its ultimate object, but if the exact relation between the two has been obscured in the past, this publication goes a long way towards setting that right.

If You're Thinking of Making a Film on Recruitment. . .

THE Battle of the Bulge is on, in this case the bulge being the vast increase in the number of school leavers from now until 1962 and the battle the competition for their services by industry.

This was the market John Laing & Son Ltd. had in mind when they produced their excellent film *Chance for a Lifetime* and throughout the entire production never once did they lose sight of their objective. Any schoolboy who has reached G.C.E. standard and who is undecided about his future will be tempted by this film to consider a career in the building industry.

Chance for a Lifetime is in colour and runs for 28 minutes. Recognising that youth is the period of intense idealism, it wisely devotes much of its time to highlighting the service the building industry renders to the community through better public utilities, factories, flats and houses. It does not omit, of course to point out that the firm concerned offers security, training and real scope for advancement as well.

As already stated, the production is aimed at the youth market, but it can be thoroughly recommended to all personnel and publicity officers who may be thinking of making a like film to put their own companies before the public gaze.

SUCCESSFUL TEACHING

THIS film was made by the Army Kinema Corporation for the War Office as a training film for officers and N.C.O. instructors. It is available to industry through the G.B. Film Library.

Successful Instruction, which is in black and white and runs for 37 minutes, is quite a remarkable production in that it compels attention with the minimum of action. For all but a few minutes, we see only one character—the lecturer—who takes us through the basic steps of how to put across a period of instruction. It also, incidentally, shows what an effective part visual aids can play in teaching.

With the necessary changes, the message put across can, of course, be applied to the instruction of training officers in industry.

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FILM in its many aspects can answer vital problems in Industry today: a powerful medium which brings added impact to your training schemes and quickens the pace of production . . . gives new meaning to your safety measures . . . strengthens personnel/management relations—in fact, can play a major role in the running of all branches of organisation.

The G.B. Film Library offers the widest range of Industrial Training films for hire—outstanding films dealing with many specific problems in Industry. These are all listed in the new Industrial Film Catalogue available shortly. We shall be pleased to put your name on our mailing list.

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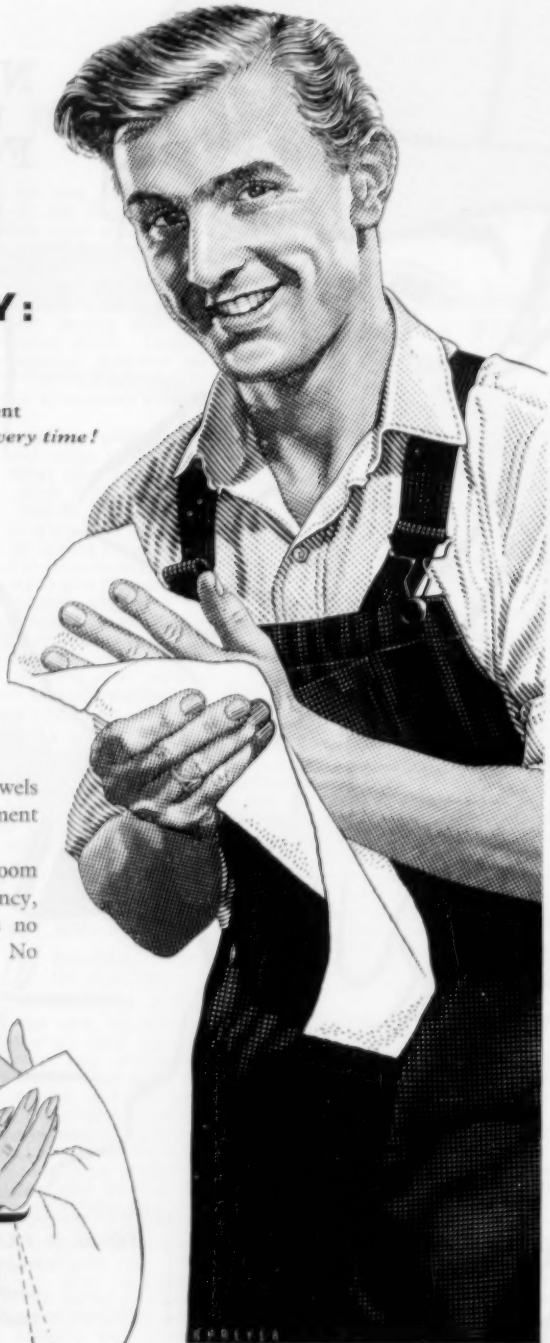

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Official Publications Summary

GENERAL

Choice of Careers, New Series No. 73. Merchant Navy Ratings. *H.M.S.O.* 1s. 9d.

Factories. Annual report of the Chief Inspector of Factories, 1955. *H.M.S.O.* 9s.

Work of the Youth Employment Service, 1953 to 1956. Report of the National Youth Employment Council. *H.M.S.O.* 2s. 6d.

Medical Research Council. Special Report Series No. 292. A study of attitudes to factory work. *H.M.S.O.* 10s.

Factory Acts, 1937 and 1948. Means of Escape in Case of Fire. Memorandum regarding granting of certificates under Section 34 of 1937 Act. *H.M.S.O.* Gratis.

Productivity Measurement Review No. 7, Nov., 1956. *O.E.E.C.* 3s. Sold by *H.M.S.O.*

STATUTORY INSTRUMENTS

No. 1873. The Lace Industry (Scientific Research Levy) (Amendment) Order, 1956. Dated November 28, 1956, made by the Board of Trade under Section 9 of the Industrial Organisation and Development Act, 1947 (a). *H.M.S.O.* 3d. Amends the Lace Industry (Scientific Research Levy) Order, 1955. Effective from January 1, 1957.

No. 1874. The Wages Regulation (Corset) (Amendment) Order, 1956. Dated November 28, 1956, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Act, 1945 (a). *H.M.S.O.* 3d. Increases the statutory minimum remuneration fixed by previous Orders. Effective from December 14, 1956.

No. 1946. The Wages Regulation (Shirtmaking) (Amendment) Order, 1956. Dated December 6, 1956, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Act, 1945 (a). *H.M.S.O.* 3d. Increases statutory minimum remuneration fixed by previous Orders. Effective from December 21, 1956.

No. 2009. The Wages Regulation (Boot and Shoe Repairing) (Holidays) Order, 1956. Dated December 17, 1956, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Act, 1945 (a). *H.M.S.O.* 4d. Sets out holidays, and payment for holidays, which employers in the above trade are now required to allow their workers. Effective from January 7, 1957.

No. 2020. The National Insurance (Contributions) Amendment Regulations, 1956. Dated December 18, 1956, made by the Minister of Pensions and National Insurance under Section 8 (1) (b) of the National Insurance Act, 1946 (a). *H.M.S.O.* 3d. Extend the period in which contributions paid after the due date and before the relevant time may be treated as paid on that date for the purpose of widow's benefit, retirement pension and death grant; also extend the time within which students, unpaid apprentices and persons detained in legal custody may pay contributions in respect of their periods of education, training or detention. Effective from December 22, 1956.

No. 2021. The National Insurance (Residence and Persons Abroad) Amendment Regulations, 1956. Dated December 18, 1956, made by the Minister of Pensions and National Insurance under Section 60 of the National Insurance Act, 1946 (a). *H.M.S.O.* 3d. Vary the time limits within which certain persons may pay contributions which they are entitled, but not liable, to pay in respect of periods abroad; and revoke provisions under which a person absent from Great Britain on July 5, 1948, might pay contributions for the period spent abroad if he returned within three years of that date or within a longer period specified by the Minister. Effective from December 22, 1956.

No. 2023. The Smoke Control Areas (Authorised Fuels) Regulations, 1956. Dated December 18, 1956, made by the Minister of Housing and Local Government under Subsection (1) of Section 34 of the Clean Air Act, 1956 (a). *H.M.S.O.* 2d. Authorise certain fuels for the purposes of the Act in England and Wales. Effective from December 31, 1956.

No. 2027. The Smoke Control Areas (Authorised Fuels) (Scotland) Regulations, 1956. Dated December 17, 1956, made by the Minister of Housing and Local Government under Subsection (1) of Section 34 of the Clean Air Act, 1956 (a). *H.M.S.O.* 2d. Authorise certain fuels for the purposes of the Act in Scotland. Effective from December 31, 1956.

Management Diary for February

BACIE

5 **Newcastle-on-Tyne.** Commercial Apprenticeships. Talk.
5 **Huddersfield.** The Youth Employment Service. Talk.
5 **London.** Industrial Experience for Technical College Staff. Talk.
5 **Manchester.** The Problems of a Competitive Market — Their Study and Solution.
19 **Birmingham.** Examination of Safety Training Courses. Joint meeting with Birmingham Industrial Safety Group.

BRITISH INSTITUTE OF MANAGEMENT

18 **London.** Impressions of a visit to Canadian Industry. A managerial view.

BURTON MANOR

11-22 The Art of Communication. Two-week course to encourage clearer thinking, speaking and writing.
11-22 Supervisory Management. Course for foremen.
24-Mar. 1 Course for Women Supervisors.

INDUSTRIAL WELFARE SOCIETY

Residential Courses

15-18 **Grand Hotel, Brighton.** The Impact of Industry on Community and Family Life. Weekend conference for directors, senior executives and their wives.

Non-residential Courses at Robert Hyde House

5-7 Industrial and Factory Law. Course for managers and executives.
5 Course on Manual Lifting and Handling.
12-13 Workshop on Systems of Communication.
18-22 Course for Foremen and Forewomen. Practical course on the skills of human relations.

Evening Study Groups at Robert Hyde House

4, 11, 18, 25 Foremen and Forewomen.
7, 14, 21, 28 Course for Canteen Cooks.
14, 21, 28, Mar. 7, 14, 21 Discussion groups for Office Supervisors.

One-day Conferences and Meetings

12 Electronics in the Office.
13 Women in Supervisory and Management Posts.
19 The Fundamentals of Good Promotion.
21 New Thinking Luncheon. "The Health of Executives."
28 Industrial Editors' (Welfare) Group. "Foothold in the Home."

INSTITUTE OF INDUSTRIAL SUPERVISORS

1-3 **Missenden Abbey, Bucks.** Industrial Relations, Industrial Law.
15-17 **Ashorne Hill.** Human Relations.
15-17 **Alfan Water Hotel, Bridge of Allan.** The Practice of Supervisory Management.
8-10 **Ashorne Hill.** Work Study for Supervisory Management.
22-24 **Ashorne Hill.** The Foreman and Cost Reduction.

INSTITUTE OF PERSONNEL MANAGEMENT

10-15 **London.** Staff Management and Training in Retail Distribution. Five-day residential study course.

INSTITUTION OF MECHANICAL ENGINEERS

19-21 **Central Hall, Westminster.** Clean Air Conference.

INSTITUTION OF WORKS MANAGERS

7 **London.** The Dilemma of Incentives.
26 **Birmingham.** A Film Critic's Approach to the Industrial Film.
22 **Nottingham.** The Art of Delegation.
12 **Preston.** The Health of Executives.
26 **Lancaster.** Materials and Mechanical Handling.
11 **Newcastle.** Industrial Psychology.

NATIONAL INSTITUTE OF INDUSTRIAL PSYCHOLOGY

4-6 Three-day Course for Supervisors.
11-15 Five-day Course in Selection Methods, Part II.
18-19 Two-day Conference—Staff assessment procedures.
21-22 Two-day Conference—Selection methods.
25-Mar. 1 Five-day Course in Selection Methods, Part III.

RESIDENTIAL COURSES FOR GIRLS

9-16 **Avon Tyrrell, Hampshire.** Course for girls working in shops and stores.

SUNDRIDGE PARK

24-Mar. 16 Measurements for Management. Three-week residential course for executives.

URCHFONT MANOR

15-17 Industrial Efficiency for Small Firms. Short introduction to Work Study for management and trade unionists in small firms.
25-Mar. 3 The Technician and the Human Factor. Course for young technicians with promotion potential.

THE RoSPA National Industrial Safety Conference will this year be held as usual in Scarborough from May 31 to June 2. There will also be the usual trade exhibition of industrial safety appliances. It is proposed to close for bookings as soon as the first 750 delegates' applications have been received and those intending to go should book as soon as possible.

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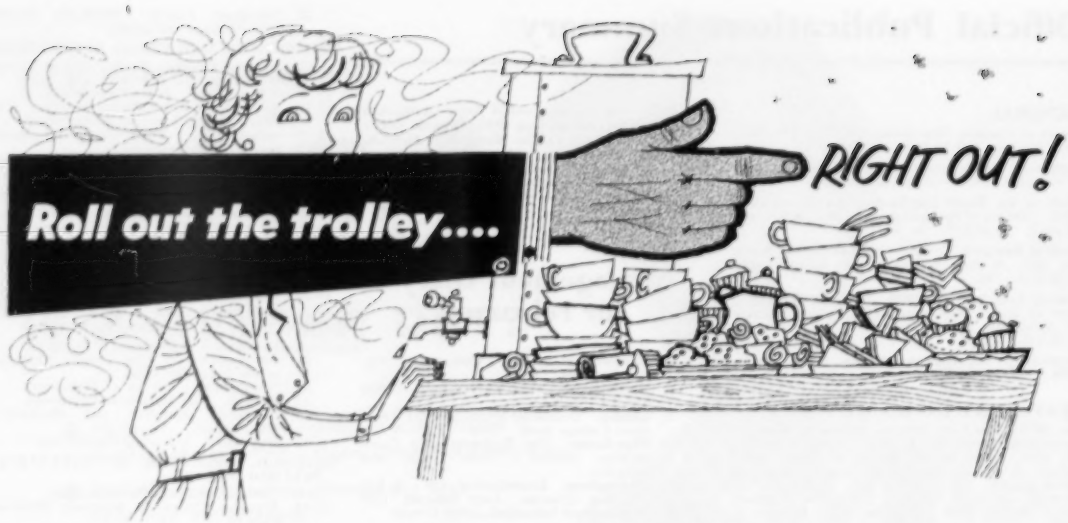
ST ALBANS



Vendepac cuts out mess and muddle, saves time and money, steps up productivity, AND IT DOESN'T COST YOU A PENNY!

More and more factories and offices are installing Vendepac automatic vending machines to give a night and day, seven-days-a-week service for Biscuits, Sandwiches, Snacks, Confectionery, Cigarettes—and a variety of hot and cold drinks served in hygienic disposable cups.

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NO INVESTMENT COST ... Vendepac Ltd. provide the machines

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Products to Help Personnel, Safety and Canteen Executives

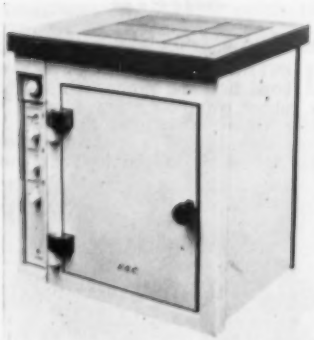
Firms with new products for better, safer working in industry are asked to send details to the Editor with, if possible, an illustration.

Canteen

COMPACT OVEN

THE *HO.*12 single oven unit is a compact piece of equipment. It has a roasting oven with hob mounted above it and is designed to cook for about forty people. The range is made in such a way that multiples can be mounted side by side, or back to back, and built up to make multi-oven units to meet individual requirements.

The oven is thermostatically controlled, ensuring that just sufficient current for cooking is used. Control of the hot plates is by three-heat rotary switches mounted on a recessed panel, which can be swung forward to give easy access to



the fuses and pilot lights. The oven is 16½ in. wide × 22 in. high × 18 in. deep, giving a total capacity of 3¼ cu. ft.

The range is finished in a mottled grey vitreous enamel to give a glossy exterior finish, while the oven interior is finished in ground coat vitreous enamel which can be quickly and easily cleaned after use. Special drip-proof hotplates and main-hob protect electrical connections from spillage. The false hob can be raised when cleaning. Adequate lagging of the oven prevents excessive loss of heat, and keeps the kitchen cool. Two oven grids and a browning sheet are supplied. Overall dimensions are 30½ in. wide × 34 in. deep × 25 in. high. The range is suitable for use with single phase A.C. or three phase four wire A.C. supply. Loading is 10.9 kW.

The General Electric Co. Ltd., Magnet House, Kingsway, London, W.C.2.

EASY MENU DISPLAY

A NEW menu board is now on the market, combining stylish presentation with time-saving simplicity. There are no perforations of the board or large double grooving, thus solving the problem of interchangeability without unsightly constructional details. The half-inch thick board is framed in aluminium extrusion and is faced with interlocking strips of black plastic with the bottom edges lapped to grip specially flanged letters. Words align themselves easily and the individual characters can be spaced according to the effect desired.

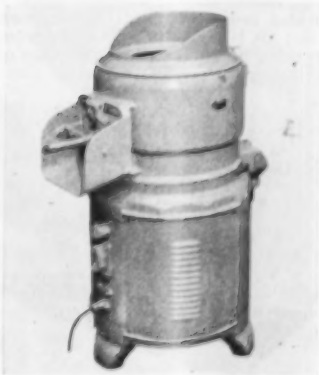
Figures and letters are in solid white plastic with a gloss finish contrasting clearly against the black plastic background. Three sizes of menu board are available—12 in. × 18 in., 24 in. × 18 in., and 24 in. × 30 in.—together with a choice of six sets of numerals and letters. The numeral sets contain 144-462 pieces and the letter sets have from 187 to 561 pieces. Each set is strongly packed in a sectioned box to facilitate rapid choice.

Headings for certain boards are supplied and affixed free of charge, quotations being given for special individual requirements.

Kennett Price Markers, 55 Eastgate Street, Winchester, Hants.

NEW PEELER

HALF a hundredweight of potatoes is the capacity of the peeling chamber in this new *Model C.56 Peeler*. The gear box of its 1 h.p. electric motor



which starts on full load, is automatically lubricated from the oil sump, and oil filler, drain and level plugs are provided.

A mixture of carborundum and bakelite cement is baked on to the walls of the peeling chamber and peeling plate to give a long-life waterproof abrasive surface making for quick peeling with a minimum of waste. Lifting hooks are provided for the easy removal of the peeling plate through the top of the chamber which can be rotated independently of the hopper top, and fixed in any position relative to the waste outlet to suit installation.

Weighing 640 lb. and with a height of 47½ in. and diameter of 25½ in., the machine is finished in mottled grey cellulose.

Crypto Ltd., North Circular Road, London, N.W.10.

Heating

SMOKELESS WARMTH

THIS industrial oil heater, the *Redfyre*, is intended for use in small factories, workshops and garages, especially in those areas designated as "smokeless zones", since it is diesel-oil-fired. Its heating capacity is from 8,000 to 16,000 cu. ft. with a thermal efficiency of 75 per cent. Heating is mainly by convection, and oil consumption and temperature are controlled by the turn of a knob; thermostatic controls can be supplied if required.

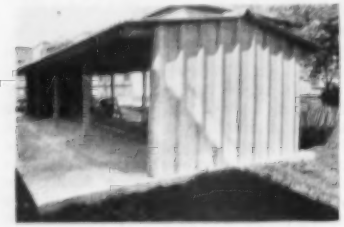
Finished in grey enamel, it has a cast iron top which can be used as a hot-plate.

Newton, Chambers & Co. Ltd., Thorncliffe, near Sheffield.

Welfare

CYCLE STORING

MARLEY Cycle Sheds, previously made only to special order, are now in quantity production. The units, available in double and single span form, are a particularly cheap housing for bicycles on industrial premises. A double unit provides storage for 36 cycles, and



cycle blocks can also be supplied at moderate cost.

As there is no rusting or other deterioration of that type the units require no maintenance. Easily handled components and a simple bolting system enable customers' own maintenance staff to erect the units on site.

Surrey Concrete Ltd., Peasmarsh, Guildford, Surrey.

LEATHER COMFORT

TWO new items of protective clothing displayed at the Public Works Exhibition were Timeg's leather donkey jacket and leather jerkin. Scientifically designed for comfort and ease of movement, they are durable, warm, finely finished and, it is claimed, will withstand the severest punishment.

Another item of equipment produced by this firm is a road shelter with one or

Donkey Jacket

two new features. It has a collapsible frame with the cover already sewn on which saves time in erection and reduces wear and tear by eliminating friction. When extended the frame is rigid.

Timeg Ltd., 102 Wardour Street, London, W.1.

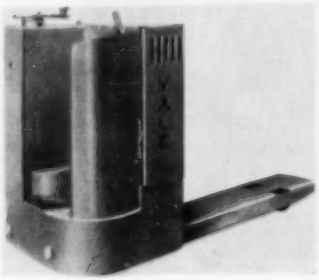
Handling

FORK LIFTS AND TRUCKS

WHEREVER lifting and stacking is a problem the *Yale K51* electric fork lift truck will prove an advantage, with its high stacking ability, high lifting speed and 4,000-8,000 lb. capacity. Its accelerating switch is pneumatically operated giving time delay between speeds for smooth acceleration. Short overall length and maximum manoeuvrability are coupled with low overall height when the forks are lowered. The elevating system is roller equipped, and the articulated axle design with individual king pins means four point ground contact even

over rough surfaces. A safety feature is the automatic power cut-off when the operator leaves his seat.

A similar feature is incorporated in the *RL4* electric rider platform truck which has a capacity of 2 tons. In this case the driver is standing and the safety control is operated by means of a "dead man" brake pedal. Sufficient space is provided in the operator's compartment so that his body does not extend beyond the rear of the truck, and a steel guard on the side ensures further protection. Good



vision of the platform is afforded for close operations, and steering is one-handed by means of a spinner knob steering wheel.

The raising or lowering of the platform does not increase the overall length, and wide faced rear wheels ensure load stability and better load distribution. The battery is supported on rollers in a totally enclosed compartment with hinged top and removable side for quick, easy battery change.

The *Yale* hydraulic hand lift truck is robustly built to give years of service with little maintenance. Its low pressure hydraulic system and capacious oil reservoir also contribute to this feature, while a differentially operating relief valve protects the truck from overloading. The balanced truck handle, relieving the operator of its weight, has a steering arc of 200° for operation in narrow aisles. Self aligning steering wheels give constant ground contact, and ball bearings in the broad surfaced wheels are sealed to exclude dirt.

The trucks are available in two types —platform and pallet—with a lifting capacity of 4,000-6,000 lb.

Yale & Towne Manufacturing Co., Wednesfield, Wolverhampton, Staffs.

Safety

TWO-PIECE GOGGLE

MONTHS of extensive research have gone into the production of this new rubber two-piece safety goggle. A unique feature of the *Neo Plex No. 55* is the inclusion of a sweat-absorbent foam pad fitted to the inside of the

frame, which combats misting of the lens. The makers' claim is that it will eliminate misting in nine cases out of ten.

The *Neo Plex* is also fitted with a tough shatterproof acetate lens providing exceptionally wide angle vision. Press studs ensure that the lens remains firmly in position during use. The frame is moulded from acid-resisting plastic, well ventilated. Cost is 7s. 6d. each and delivery can be effected immediately from stock.

Safety Service Co., 86 Addison Gardens, London, W.14.

FLAMESTATS

NOW available for standard burner applications is a complete range of

photo-electric and electronic flame failure units. All these *Flamestats* are mounted in 18 B.G. housings with hinged lids, the electronic chassis being of a plug-in design. During installation or maintenance the electronic unit can be removed without disconnecting wiring or removing fixing screws. In addition to this feature *Flamestats* have high sensitivity to flame, and are designed to fit oil, gas or pulverised fuel burners where immediate cut-off of the fuel supply is essential on flame failure.

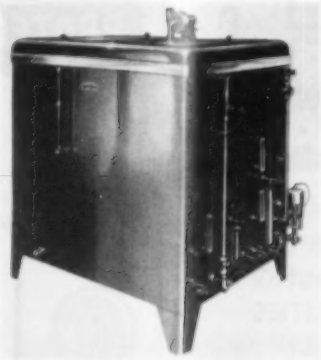
Radiovisor Parent Ltd., Stanhope Works, London, S.W.19.

Efficiency Aids

OIL CONDITIONER

THE new Figure 832 oil conditioner has been designed by the makers to help solve some of the problems created by the oil crisis. The unit will condition turbine or other low-viscosity, high-demulsibility oils which contain dirt and other foreign matter. It is especially useful for oils requiring acid correction and will also remove emulsified or "free" water.

Only one size is available at present, with a capacity of 45-90 g.p.h., but larger models with capacities of up to 1,080 g.p.h. are to be produced later. Once started the unit is automatic and needs little attention.



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Columbus Dixon Ltd., Capitol Works, Empire Way, Wembley, Middlesex.

The business of the stamp and postal service division of *Hall Telephone Accessories Ltd.* is now being conducted under the name of their associated company, *National Automatic Machines Ltd.*, Rental Division, 25, Nutford Place, London, W.1. No change of ownership is involved.

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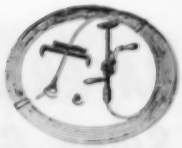

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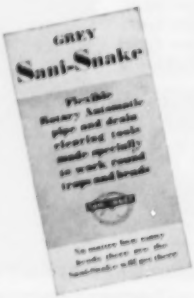

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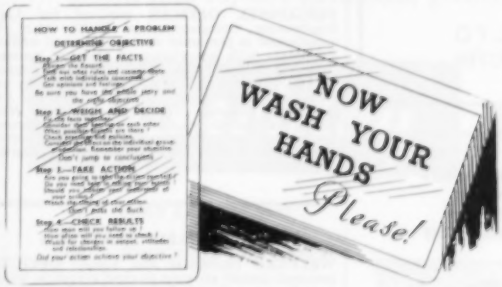

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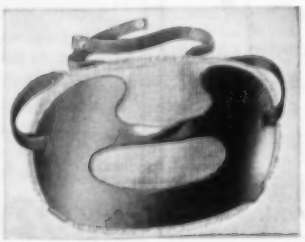

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